

PRIVACY ACT MATERIAL REMOVED

727781

DECLASSIFIED

- # 1 - H. A. Winne
- # 2 - C. G. Suits, Schenectady
- # 3 - G. R. Prout
- # 4 - J. R. Rue
- # 5 - C. N. Gross
- # 6 - A. B. Greninger
- # 7 - W. E. Johnson
- # 8 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
- # 9 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
- # 10 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
- # 11 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
- # 12 - Hanford Operations Office
Attention: F. C. Schlemmer, Manager
- # 13 - Hanford Operations Office
Attention: R. W. Richardson, Historian
- # 14 - 700 File
- # 15 - 700 File
- # 16 - 700 File

DEPOSITORY POOL

COLLECTION Atmospheric Releases

No. 121A

DER 121A

DECLASSIFICATION REVIEW FOR
 EXECUTIVE ACTION NOT LEFT
 UNIMPLEMENTED
 By [Signature]
 Date 7-73
 U.S. REC Division of Classification

March 20, 1950

HANFORD WORKS

MONTHLY REPORT

FEBRUARY 1950

CAUTION

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Classification Cancelled And Changed To
DECLASSIFIED

By Authority of W.A. Snyder 6-12-91

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By J.E. Savely 8-6-91

Verified By A. Buehler 8-9-91

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GENERAL SUMMARYFEBRUARY, 1950**DECLASSIFIED**MANUFACTURING DIVISIONSProduction Divisions

A total of 62.3 tons of metal was discharged at an average of 90 percent of the goal concentration. One-half ton was discharged at 137 percent of the goal concentration. The pile operating efficiency was 92.8 percent. The operating levels at month end were 275 MW at P pile, 305 MW at D and F piles, and 330 MW at H pile.

A total of 91 tons of acceptable slugs was canned at a yield of 93.2 percent. The machining yield of 77.3 percent set a new record high. The melt plant produced 19 tons of billets at a yield of 67.8 percent.

Sixty-eight batches were started in the Canyon Buildings, with 63 being processed through the Concentration Buildings, and 65 through the Isolation Building. The average purity of completed batches from Isolation was 98.6 percent.

Mechanical Divisions

The severe cold weather and excessive snowfall handicapped activities of the Division throughout the month and created a large volume of additional work. Difficulty was experienced with automotive equipment, freezing of water lines, intakes, and reservoirs, and ice endangering the Yakima River Bridge at George Washington Way. The temporary false work piling on the UP-NP Railroad Bridge was removed.

Inspection by boroscope of 87 safety rod thimbles revealed that 14 were corroded and will require replacement. Two stainless steel knuckle jointed safety rods having flexibility to accommodate thimble distortion resulting from graphite expansion were installed at 100-D Area.

The electrical demand of 38,200 KW for the entire electrical system reached an all time high coinciding with the cold weather.

The installation of the IBM temperature monitor system at 100-H Area was completed and is operating satisfactorily. It is planned to install similar units in 100-B, 100-D, and 100-F.

A twelve inch sanitary water line in the 200-East Area failed and was repaired. The reason for the break could not be established, but it was probably due to the severe cold weather.

Continuing progress is being made in reducing inactive Stores inventory. During the month \$15,155 worth of material was excessed.

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General Summary

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TECHNICAL DIVISIONS

File Technology Division

During February the File Technology Division became so firmly committed to work on an expanded P-10 program that it was necessary to suspend almost all technical work in support of design of new plutonium producing piles.

The atmosphere of the B File was converted to a nominal 100-% CO₂ during the month.

Fracture tests on the two slugs which caused difficulty during discharge in January showed conclusively that both slugs had been incompletely transformed into the beta phase during canning.

Sample tubes containing Group V material were discharged satisfactorily at 556 MD/ton.

Initial results indicate that the accumulation of abnormally large amounts of pressure drop film (by excluding test slugs from the pile purge) has no major effect on slug corrosion rates.

Graphite samples which had been irradiated for 2½ years at low temperature recovered 75% of their original expansion during a two month irradiation at 335°C.

Metallurgical studies show that solution heat treatment of extruded P-10-A alloy for four hours at 580°C eliminates much of the second phase; this second phase is believed to be a large contributing factor in the initial gas content of unirradiated slugs.

Separations Technology Division

Production testing in the Separations Plants of slower rates of phosphoric acid addition, the use of single-distilled hydrofluoric acid, and metathesis routine has resulted in favorable gains in yields, essential materials economy, or time cycle advantages. A number of non-routine process operations, occurring inadvertently, were corrected by reworking operations resulting in near-standard final waste losses. Corrections of equipment misalignment in plutonium metal fabrication Pressing operations and careful attention to operational performance have produced a continuous series of satisfactory metal shapes. Improved Coating performance in these operations permitted the attainment of February production commitments, and the over-all promise of attaining the March commitments is extremely good.

In Redox and Metal Waste Recovery process development, forty-one additional solvent extraction column runs were made during the past month, all on TBP process studies. Extensive improvements in TBP packed column performance were separately obtained by the addition of sodium fluosilicate to the feed and by pulsing the solvent feed. A wide range of TBP process

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conditions has been investigated, establishing considerable flexibility for tailoring flow sheet conditions. Pulse columns of 3 and 8 inches in diameter are being readied for nearly immediate operation and a 16-inch column is being installed for operation within about one month. Several of the submerged pumps on life-testing are continuing to give satisfactory results.

In the research laboratory, continued scouting of methods of decontaminating Bldgs. 234-5 and 224 crib wastes is showing increasing promise. TBP process studies have included work on improved performance of carbonate-washed TBP, comparison of diluents for TBP, settling rates of sludge from metal waste slurries, and continuous recovery of nitric acid. Redox studies have been continued in hexone-nitric acid reaction chemistry, continuous cross-over oxidation, and ruthenium tetroxide distillation. Near-quantitative recovery of plutonium from 234-5 slag and crucibles has been obtained in laboratory tests of KOH fusion, acid dissolution, and alkaline precipitation, successively. Additional data have also been obtained on coupling of full-level Redox solutions to the 234-5 Bldg. process.

In the 234-5 process development laboratory, alternate modifications of the crucible recovery studies described above are also under study. Exploratory studies of skull dissolving agents other than hydriodic acid have uncovered promising results with 16 M nitric acid-0.1 M hydrofluoric acid mixtures. A filter-reactor has been fabricated for testing of direct transfer of filtered plutonium precipitates to hydrofluorination.

The T Plant sand filter efficiencies have remained lower than usual since the special short-cooled dissolving run and possibilities of monitor piping are being investigated. Filtration studies with a special paper produced by the A. D. Little Company have revealed that this material is apparently as good as DWS Type-6 paper.

Technical Services Division

Effective February 1, an Equipment Design Unit was established in the Engineering Section of the Technical Services Division. This new unit, which is housed in Building 101, is responsible for all laboratory equipment design activities in the Technical Divisions (except for that of Rala, which is continuing in the Analytical Section).

Good progress was made on the Rala Laboratory design, and plans were made for constructing a mock-up analytical line in Building 101. Development of the Remote Control Transport System continued, and effective technical liaison was established with the Lionel Corporation. Arrangements were completed whereby the Instrument Division will study the feasibility of the proposed electronic controls for this RCT System.

Documents HW-16080, "SF Materials Accountability Procedure," and HW-16082, "SF Material Accounting Procedures," were issued during the month. The former details the system of control of such materials in use in the Analytical Section (both Control and Research), while the latter defines the various samples received by the laboratories, presents

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General Summary

the checking limits within which acceptable laboratory results must fall, and gives references to laboratory manuals where method descriptions are detailed.

The first specimen of high density lead glass was received from the Penberthy Instrument Company of Spokane, Washington. This special glass, which is reported to have shielding properties about equivalent to that of steel on a thickness basis, shows excellent promise for use in direct viewing windows of laboratory caves and cubicles.

Architectural, foundation and structural steel drawings for the Redox Analytical and Plant Assistance Laboratory, Building 222-S, were approved and released to the field construction forces. Preparation for temporary construction buildings and site clearing was in progress.

With the recent transfer of the Engineering Files from the Design and Construction Divisions to the Project Engineering Division, arrangements were made to return the handling of all classified material formerly issued and controlled by these Engineering Files to the 700 Area Classified Files.

HEALTH INSTRUMENT DIVISIONS

The force increased by two. No Special Hazards Incident investigations occurred.

Considerable progress was made in P-10 hazard detection and evaluation through joint intradivisional effort during this period. Surveys by the Operational Division showed no major deviations from normal practices nor any above normal personnel exposures.

Routine air, water, and vegetation samples obtained through Development Division control activities showed the normal pattern of activity distribution. Bioassay of urine samples for plutonium showed no confirmed positive results. A maximum result of 130 µg/liter of uranium was obtained. Seven percent of the urine samples analyzed for P-10 were above the detectable limit. Four of these came from one individual.

Biology Division work proceeded satisfactorily. Analytical work on two-year old algae from the 107-F basin showed unexpected presence of Pm¹⁴⁷.

PLANT SECURITY AND SERVICES DIVISIONS

There was one major injury in February making a total of one for the year to date and a frequency rate of 0.43.

There were three minor fires in the industrial areas with a total loss of \$54.

Volume of both laundries remained approximately the same as in January.

Mail volume again increased over previous months. Changes in layout and work space speeded handling.

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General Summary

The plant records inventory has been completed except for Classified Files.

Effective February 20, two new posts were placed in effect in the 200-Test Construction Area. On February 27 the post at P-11 was extended to 24-hour coverage.

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

A total of 1,349 applicants was interviewed during February, 304 of which were individuals who applied for employment with the Company for the first time. In addition, 321 new applications were received through the mail. Open requisitions increased from 86 at the beginning of the month to 103 at the end of February. Total plant personnel increased from 7,431 to 7,464. Turn-over rate, including terminations due to lack of work, was 0.94%. Turn-over rate, exclusive of terminations due to lack of work, was 0.899%. A visit was made to the Yakima Valley Junior College, Yakima, Washington, and the Central Washington College of Education, Ellensburg, Washington, in order to ascertain the availability of persons who have had two years college education to fill positions in Health Instrument and Technical Divisions. Recruitment of stenographers was conducted in San Francisco and Los Angeles, California. This recruitment, coupled with that conducted previously in the Northwest, has resulted in 43 stenographers being obtained.

The Instructions Letter on "Procedure for Disciplinary Action" was distributed to all supervisors during February. Eighty-two visits were made to employees off work because of illness. Two employees retired and one employee death occurred during the month. Organization was developed to handle the Red Cross Drive. Insurance claim forms were distributed to Our Lady of Lourdes Hospital in Pasco, Washington. Twenty suggestion awards, totaling \$300 and representing an estimated savings of \$3,456, were granted to employees during the month. The largest award was \$100, given to a Maintenance Division employee. Two Workman's Compensation hearings were attended during February.

Forty-five supervisors participated in the 40-Hour Supervisors Training Program during February. Luncheon was given on the last day of this Program for the participating supervisors with several members of Management as guests. Current Event Program on Economics was presented to supervisors during a three-week period in February with 518 supervisors in attendance. Programs on the importance of accountability for source and fissionable material were prepared for dissemination to those Divisions handling this material and were presented to 32 employees in the Technical Divisions. A representative of the Training and Program Development Group addressed the Richland Chamber of Commerce on February 14, 1950.

Meetings were held between NLRB representatives, the Company, and representatives of the Hanford Industrial Firemen's Union for the purpose of setting up the consent election, which was conducted on February 23 and 24. The results of the election indicated that the Industrial Firemen desired representation by the Hanford Atomic Metal Trades Council. The Technical Engineers and Architects Association withdrew their petition without

General Summary

prejudice the day before the scheduled hearing. In preparation of the possible renegotiation of the HAMTC-GE Agreement, an analysis of the Articles of the Agreement, all grievances and instructions letters was begun. Two meetings were held with the Council Grievance Committee. Outside personal contact was completed in connection with the annual Northwest Wage Survey. An analysis of the survey figures in connection with the comparison of the rates paid General Electric Company employees with the wage rates paid by participating concerns in the Survey was started. A series of conferences were held with A. E. C. authorities relative to a submitted request for authorization to pay a number of employees specific amounts of money due them as a result of the application of the new non-unit progression schedule.

Public information activities of the Nucleonics Department News Bureau during the month of February included the release of 15 news stories to the "local list". In addition, the list of 72 newspapers, wire services, and radio stations in the Pacific Northwest received 9 news releases.

Special requests for information to be used in news stories continued to occupy a large part of the time of News Bureau personnel during the month of February. Twelve news stories were prepared in reply to requests received from the TRI-CITY HERALD, seven for the Richland VILLAGER, and two for the Spokane CHRONICLE representative in Richland.

Special Programs completed the design of special security reminder disks for the Hanford Works telephones and the order was placed through the Purchasing Division during the month.

Other Special Programs assignments during the month included design and production of the Hanford Works Safety Topic of the Month poster for March, the cover for the March safety meeting discussion material booklet, the four covers for use in the forthcoming Richland telephone directory, editorial work, design and photography work for a special supplement to Hanford Works NEWS commemorating the 100-D Area's third injury-free year, as well as special safety citation cards for distribution to employees of 100-D Area, and two letters for the General Manager's signature which were distributed to all Hanford Works employees.

Four issues of the Hanford Works NEWS were published during February and "Candid Camera" was inserted in the February 3 issue. The WORKS NEWS was instrumental during the month in carrying to all Hanford Works employees the message the General Manager had presented earlier during a special supervisors' meeting.

The WORKS NEWS also published during the month a special issue devoted to Valentine's Day and served community programs through publicity concerning the observance of National Boy Scout Week and the Red Cross Drive.

A new feature, the responsibility of the Women's Feature Writer, was introduced in the WORKS NEWS during February. It is called "What's Doing", and provides a chatty schedule of events approximately one week in advance as a service to readers of the plant newspaper who are seeking recreation in Richland.

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A program of publicity for the Community Activities Division "Kite Flying Contest" was designed by the Community Divisions Public Information Supervisor and approved by the Community Activities Division during the month. In addition, this Supervisor assisted in preparing an up-to-date description of Richland, Washington, for use by the Employment Division in corresponding with prospective employees of Hanford Works.

A considerable increase has been experienced in the requests for institutional motion pictures received by Public Functions and Services, necessitating the setting up of more detailed schedule records and sending out of additional information concerning movies available.

The Public Functions and Services Supervisor discussed radio program possibilities with the management of three radio stations in this area during the month and found them very receptive to the services he proposes to offer.

Sixty-nine photo assignments were completed by the Hanford Works Photo House during the month, an increase of 29 over the previous month. Color photography service, rendered primarily to Kadlec Hospital, increased approximately 50 percent over the previous month.

PURCHASING AND STORES DIVISIONS

Personnel of the Purchasing and Stores Divisions showed a net increase of four people as indicated by the tabulation below:

	<u>Total Personnel as of 1-31-50</u>	<u>Total Personnel as of 2-28-50</u>	<u>Net Change</u>
Exempt	53	53	0
Non-Exempt	<u>234</u>	<u>238</u>	<u>plus 4</u>
Totals	287	291	plus 4

The work load in the Purchasing Division increased materially. The number of requisitions on hand at month end was 969 which represented an increase of approximately 80 percent.

Authority was received to proceed with procurement for Project MJ-1 on February 3, 1950.

An order was placed with the Roberts Filter Manufacturing Company amounting to approximately \$675,000. The need for this equipment was so urgent that it was deemed advisable to send the Purchasing Agent to the Roberts Plant at Darby, Pennsylvania for the purpose of aiding in the scheduling and expediting the delivery of this equipment.

We were able to maintain, through the medium of spot purchases, an average of two months' supply of coal despite the National strike.

Quotations were obtained on our rather large requirements for Aluminum Nitrate and forwarded to the Commission for approval. Indications were that it would be necessary for the successful vendor to construct additional

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General Summary

production facilities either at Sunnyside, Washington or Kennewick, Washington to take care of our needs.

Stores active inventories were reduced by \$45,120.35.

A total of 1,791 purchase requisitions was screened resulting in the supplying of 741 items from plant inventories thus obviating the expenditure of new funds.

An audit of the Stores Division's scrap sales procedure was completed by the Accounting Division.

As a result of rate reductions obtained from carriers, total savings in freight charges for the month amounted to \$43,607.29.

COMMUNITY DIVISIONS

Election of Community Council members was held February 4, 1950, in conjunction with the School Board election.

Three new commercial facilities opened for business during the month.

Housing applications increased from 197 to 203.

Due to the extreme ice conditions on the Yakima River, unfavorable thawing weather could have created a serious threat to the bridges crossing the river; however, as a result of favorable thawing conditions, no damage to the bridges was experienced.

MEDICAL DIVISIONS

The Medical Divisions' roll changed little from 362 to 361.

At the final visit of our medical consultant group, Public Health and Industrial Medicine were given special attention. Dr. Ellis Sox, of Public Health Department, State of California, was added to the group to advise on public health.

Total weekly employee absenteeism was 2.44% as compared to 3.20% for February, 1949.

The net cost of operating the Medical Divisions (before assessments to other divisions) was \$83,280, a decrease of \$8,762, and \$28,894 below the budget figure. The improvement was largely due to increased revenue.

GENERAL ACCOUNTING DIVISION

Considerable time was spent in the preparation of an Appendix C to the Prime Contract. This appendix covers in detail all employee benefit plans and all policies relative to travel and living allowances. Methods of payment in connection with these plans and policies were covered together with the resultant reimbursement from the Government.

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General Summary

Assistance was rendered to all General Divisions in the preparation of fiscal year 1952 budget estimates and revisions of 1951 estimates covering within-division, construction, research and development, and balance sheet budgets.

Hanford Works and Nuclonics Department Financial Statements for the month of January were completed and distributed on February 16 and February 21, 1950, respectively. General Divisions Operating Reports covering January operating costs were completed on February 15, 1950.

Advances from AEC remained at \$4,000,000 at the month end. Items comprising the balance in the advance account as of February 28, 1950 compared with those of January 31, 1950 are detailed below:

	<u>January 31</u>	<u>February 28</u>
Cash in Bank - Contract Accounts	\$ 3,178,952	\$ 3,405,716
Salary Accounts	55,000	50,000
Travel Advance Funds	50,000	50,000
Advances to Subcontractors	300,000	300,000
Cash in Transit	<u>416,048</u>	<u>194,284</u>
Total	<u>\$ 4,000,000</u>	<u>\$ 4,000,000</u>

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STAFF

General Manager	G. R. Prout
Assistant General Manager	R. S. Neblett
Assistant General Manager	F. K. McCune
Assistant to the General Manager (Technical and Education Matters)	W. I. Patnode
Assistant to the General Manager	J. R. Rue
Assistant to the General Manager and Manager of the Plant Security and Services Divisions	G. G. Lail
Department Comptroller	F. E. Baker
Counsel	L. F. Huck
Community Manager	E. L. Richmond
Manager, Design and Construction Divisions	W. E. Johnson
Manager, Manufacturing Divisions	C. N. Gross
Manager, Technical Division	A. B. Greninger
Manager, Health Instrument Division	H. M. Parker
Manager, Medical Division	W. D. Norwood, M.D.
Manager, Employee and Community Relations Division	H. E. Callahan
Manager, Purchasing and Stores Divisions	W. A. Jeffrey



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FORCE REPORT
FEBRUARY - 1950

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	NON EXEMPT		EXEMPT		TOTAL	
	1-31-50	2-28-50	1-31-50	2-28-50	1-31-50	2-28-50
<u>GENERAL</u>	23	27	17	17	40	44
<u>LAW</u>	3	3	3	3	6	6
<u>DESIGN & CONST. DIV'S.</u>						
CONSTRUCTION	27	28	8	6	35	34
CONST. ACCT'G.	56	58	8	9	64	67
DESIGN	176	185	195	192	371	377
NO. RICHLAND REALTY	65	66	16	17	81	83
<u>MANUFACTURING DIV'S.</u>						
GENERAL	4	4	11	12	15	16
PROJ. ENG'R. CONTROL	17	18	22	23	39	41
PROJ. ENG'R. DESIGN	65	66	42	42	107	108
PROJ. ENG'R. MINOR CONST.	169	167	31	30	200	197
MFG. ACCOUNTING	47	46	8	8	55	54
<u>OPERATING DIV'S.</u>						
"PI"	275	274	65	66	340	340
"SI"	296	296	83	85	379	381
POWER	461	455	81	82	542	537
<u>MECHANICAL DIV'S.</u>						
MAINTENANCE	311	310	52	52	363	362
ELECTRICAL	253	253	46	48	299	301
INSTRUMENT	192	192	48	48	240	240
TRANSPORTATION	539	538	57	57	596	595
<u>TECHNICAL DIV'S.</u>						
GENERAL	2	2	3	3	5	5
PILE TECHNOLOGY	44	44	80	82	124	126
SEPARATIONS TECHNOLOGY	59	58	94	95	153	153
TECHNICAL SERVICES	343	341	105	109	448	450
<u>MEDICAL</u>	279	279	83	81	362	360
<u>H. I. DIV'S.</u>						
GENERAL	4	4	3	3	7	7
H. I. OPERATIONAL	149	152	59	59	208	211
H. I. DEVELOPMENT	69	69	25	23	94	92
H. I. BIOLOGY	28	29	20	21	48	50
<u>ACCOUNTING DIV'S.</u>						
GEN. ACCT'G. PAYROLL	77	76	8	8	85	84
GEN. ACCT'G. ACCT'G.	76	76	13	15	89	91
<u>EMPLOYEE & COMMUNITY RELATIONS DIV.</u>	53	54	27	28	80	82
<u>PLANT SECURITY & SERVICE DIV'S.</u>						
P.ATROL & SECURITY	515	520	57	56	572	576
SAFETY & FIRE	115	114	35	35	150	149
GEN. & OFF. SERV.	189	197	21	20	210	217
<u>PURCHASING & STORES DIV'S.</u>						
PURCHASING	37	38	33	34	70	72
STORES	198	200	26	26	224	226
<u>COMMUNITY DIV'S.</u>	585	586	145	144	730	730

GRAND TOTALS 1212310 5801 5825 1630 1639 7431 7464

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PERSONNEL DISTRIBUTION -- FEBRUARY 1950

	<u>100-B</u>	<u>100-D</u>	<u>100-F</u>	<u>100-H</u>	<u>200-E</u>	<u>200-W</u>	<u>300</u>	<u>PLANT</u>	<u>3000</u>	<u>700-1100</u>	<u>TOTAL</u>
	<u>AREA</u>	<u>AREA</u>	<u>AREA</u>	<u>AREA</u>	<u>AREA</u>	<u>AREA</u>	<u>AREA</u>	<u>GENERAL</u>	<u>AREA</u>	<u>AREA</u>	<u>TOTAL</u>
<u>GENERAL</u>	-	-	-	-	-	-	-	-	-	17	17
<u>Clerical</u>	-	-	-	-	-	-	-	-	-	27	27
<u>Total</u>	-	-	-	-	-	-	-	-	-	44	44
<u>LAW DIV.</u>	-	-	-	-	-	-	-	-	-	3	3
<u>Clerical</u>	-	-	-	-	-	-	-	-	-	3	3
<u>Total</u>	-	-	-	-	-	-	-	-	-	6	6
<u>DESIGN & CONST. DIV'S.</u>	-	-	-	-	-	-	-	-	-	-	-
<u>CONSTRUCTION</u>	-	-	-	-	-	-	-	-	-	-	-
Supervisors	-	-	-	-	-	-	-	-	3	-	3
Inspectors	-	-	-	-	-	-	-	-	3	-	3
Clerical	-	-	-	-	-	-	-	-	20	8	28
<u>Total</u>	-	-	-	-	-	-	-	-	26	8	34
<u>CONST. ACCT'G.</u>	-	-	-	-	-	-	-	-	-	-	-
Supervisors	-	-	-	-	-	-	-	-	7	-	7
Exempt non Supv.	-	-	-	-	-	-	-	-	2	-	2
Clerical	-	-	-	-	-	-	-	-	58	-	58
<u>Total</u>	-	-	-	-	-	-	-	-	67	-	67

<u>DESIGN</u>	-	-	-	-	-	-	-	-	-	-	-
Supervisors	1	-	-	-	-	-	-	-	8	29	38
Engineers & Estimators	6	-	-	-	-	-	-	-	2	130	138
Exempt non Supv.	-	-	-	-	-	-	-	-	6	10	16
Draftsmen	-	-	-	-	-	-	-	-	-	61	61
Clerical	1	-	-	-	-	-	-	-	17	106	124
<u>Total</u>	8	-	-	-	-	-	-	-	33	336	377

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DESIGN & CONST. DIV'S.
NO. RICHLAND REALTY

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total
Supervisors	-	-	-	-	-	-	-	-	17	-	17
Clerical	-	-	-	-	-	-	-	-	13	-	13
Janitors	-	-	-	-	-	-	-	-	24	-	24
Others	-	-	-	-	-	-	-	-	29	-	29
Total	-	-	-	-	-	-	-	-	83	-	83

MANUFACTURING DIV'S.
GENERAL

Supervisors	-	-	-	-	-	-	-	-	-	8	8
Engineers	-	-	-	-	-	-	-	-	-	4	4
Clerical	-	-	-	-	-	-	-	-	-	4	4
Total	-	-	-	-	-	-	-	-	-	16	16

PROJ. ENG'R. CONTROL

Supervisors	-	-	-	-	-	-	-	-	-	7	7
Engineers	-	-	1	-	-	-	-	-	-	13	15
Clerical	-	-	-	-	-	-	-	-	-	-	13
Craftsmen	-	-	-	-	-	-	-	1	-	-	5
Total	-	-	1	-	-	-	-	1	-	20	41

PROJ. ENG'R. DESIGN

Supervisors	-	-	-	-	-	3	1	-	-	35	39
Engineers	-	-	-	-	-	-	-	-	-	3	3
Clerical	-	-	-	-	-	-	-	-	-	6	6
Others	-	-	1	-	-	5	2	4	-	48	60
Total	-	-	1	-	-	8	3	4	-	92	108

PROJ. ENG'R. MINOR CONST.

Supervisors	-	-	-	-	-	-	-	24	-	3	27
Engineers	-	-	-	-	-	-	1	2	-	-	3
Craftsmen	-	-	-	-	-	-	-	155	-	-	155
Clerical	-	-	-	-	-	-	-	11	-	1	12
Total	-	-	-	-	-	-	-	192	-	4	197

DECLASSIFIED

121231
3.

MANUFACTURING DIV'S.

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
Supervisors	-	-	-	-	-	-	-	-	-	8	8
Clerical	-	-	-	-	-	-	-	-	-	46	46
Total	-	-	-	-	-	-	-	-	-	54	54

OPERATING DIV'S.

Supervisors	9	9	11	12	-	-	13	-	-	2	56
Supv. in Training	-	-	-	-	-	-	-	-	-	1	1
Engineers	2	-	-	-	-	-	-	-	-	7	9
Operators	36	38	36	36	-	-	112	-	-	-	258
Clerical	2	2	2	2	-	-	4	-	-	4	16
Total	49	49	49	50	-	-	129	-	-	14	340

"S"

Supervisors	-	-	-	-	15	34	-	-	-	3	52
Supv. in Training	-	-	-	-	5	5	-	-	-	1	11
Engineers	-	-	-	-	-	10	-	-	-	12	22
Operators	-	-	-	-	104	168	-	-	-	-	272
Clerical	-	-	-	-	5	14	-	-	-	5	24
Total	-	-	-	-	129	231	-	-	-	21	381

POWER

Supervisors	12	12	12	12	5	8	5	1	-	2	69
Engineers	-	4	-	-	-	-	-	9	-	-	13
Operators	78	78	79	77	26	49	10	15	-	-	412
Clerical	1	1	1	1	-	1	-	4	-	2	11
Coal Handling	6	6	6	6	-	7	1	-	-	-	32
Total	97	101	98	96	31	65	16	29	-	4	537

RELEASED

121231#

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	

MANUFACTURING DIV'S.
MECHANICAL DIV'S.
MAINTENANCE

Supervisors	2	6	6	5	6	13	6	-	-	2	46
Engineers	-	-	-	-	-	-	-	-	-	6	6
Craftsmen	17	40	37	27	31	83	50	-	-	-	285
Clerical	-	-	2	2	2	2	2	-	-	1	11
Others	1	1	2	2	2	4	2	-	-	-	14
Total	20	47	47	36	41	102	60	-	-	9	362

ELECTRICAL

Supervisors	1	2	2	3	1	5	2	17	-	10	43
Engineers	-	-	-	1	-	-	1	2	-	1	5
Craftsmen	12	12	14	15	11	15	11	70	-	29	189
Clerical	1	-	1	1	-	1	1	4	-	25	34
Operation	4	4	4	4	-	-	-	10	-	-	26
Others	-	-	-	1	-	1	-	1	-	1	4
Total	18	18	21	25	12	22	15	104	-	66	301

INSTRUMENT

Supervisors	2	2	2	3	2	6	8	-	-	4	29
Engineers	-	1	-	-	-	2	10	1	-	5	19
Craftsmen	13	14	15	15	14	34	-	-	53	11	169
Clerical	-	1	1	1	1	2	5	2	-	3	16
Others	-	-	-	-	-	-	-	-	7	-	7
Total	15	18	18	19	17	44	23	3	60	23	240

RECORDED

SECRET

HW 17056

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
Supervisors	2	3	1	1	2	1	1	7	-	34	52
Engineers	-	-	-	-	-	-	-	-	-	5	5
Bus Drivers	-	-	-	-	-	-	-	-	-	165	165
Journeyman	2	3	3	5	3	6	-	12	-	68	102
Trainmen	-	-	-	-	-	-	-	24	-	-	24
Serviceemen	1	10	3	2	3	4	5	6	-	15	49
Clerical	1	1	1	1	1	1	1	1	-	20	28
Equipment Operation	4	6	4	4	2	8	4	14	-	30	76
Others	10	14	2	2	10	4	2	15	-	35	94
Total	20	37	14	15	21	24	13	79	-	372	595

MANUFACTURING DIV'S.
MECHANICAL DIV'S.
TRANSPORTATION

TECHNICAL DIV'S.
TECHNICAL GENERAL
 Supervisors
 Clerical
 Total

PILE TECHNOLOGY
 Supervisors
 Metallurgists & Eng'r.
 Physicists
 Tech. Grads
 Laboratory Assistants
 Clerical
 Others
 Total

DECLASSIFIED

5
5
5
5
5

SECRET

SECRET

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total
Supervisors	-	-	-	-	1	4	14	-	-	1	20
Chemists - Chem. Eng'r.	-	-	-	-	5	10	58	-	-	2	75
Tech. Grads.	-	-	-	-	-	2	-	-	-	-	2
Clerical	-	-	-	-	-	3	6	-	-	1	10
Chem. Operators	-	-	-	-	-	1	32	-	-	-	33
Others	-	-	-	-	-	-	13	-	-	-	13
Total	-	-	-	-	6	20	123	-	-	4	153
Supervisors	-	-	3	2	5	13	28	-	-	5	56
Chemists & Eng'r.	1	1	8	-	-	3	37	-	-	3	53
Technologists - Tech. Grads.	-	-	2	4	6	26	28	-	-	-	66
Lab. Asst.	-	-	-	6	28	56	66	-	-	-	156
Clerical	-	-	1	1	1	4	40	-	-	30	77
Others	-	-	28	-	-	-	14	-	-	-	42
Total	1	1	42	13	40	102	213	-	-	38	450

TECHNICAL SERVICES

SECRET

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total
Supervisors	-	-	-	-	-	-	-	-	-	33	33
Physicians	-	-	-	-	-	-	-	2	1	26	29
Dentists	-	-	-	-	-	-	-	-	-	9	9
Other Exempt	-	-	-	-	-	-	-	-	1	9	10
Technicians	-	-	-	-	-	-	-	4	-	16	20
Nurses	1	4	4	1	4	5	2	-	2	66	89
Clerical	-	-	-	-	-	-	1	3	-	78	82
Others	-	-	-	-	-	-	-	-	1	87	88
Total	1	4	4	1	4	5	3	9	5	324	360

MEDICAL

DECLASSIFIED

SECRET

HW 17056

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	Total

H. I. DIVISIONS

GENERAL

Supervisors
Engineers
Clerical
Total

	-	-	-	-	-	-	-	-	-	-	2
	-	-	-	-	-	-	-	-	-	-	1
	-	-	-	-	-	-	-	-	-	4	4
	-	-	-	-	-	-	-	-	-	7	7

OPERATIONAL

Supervisors
Engineers
Clerical
Others
Total

1	1	1	1	3	2	6	8	-	-	1	23
4	3	5	4	5	10	3	3	-	-	2	36
-	-	-	1	-	1	1	1	-	-	-	3
9	15	10	12	17	35	41	10	10	-	-	149
14	19	16	20	24	52	53	10	10	3	3	211

DEVELOPMENT

Supervisors
Engineers
Clerical
Others
Total

-	-	-	-	-	1	3	4	-	-	-	8
-	-	-	-	-	5	3	6	-	-	1	15
-	-	-	-	-	1	1	2	-	-	-	4
-	-	-	-	-	12	28	15	-	-	10	65
-	-	-	-	-	19	35	27	-	-	11	92

BIOLOGY

Supervisors
Engineers
Clerical
Others
Total

-	-	5	-	-	-	-	1	-	-	-	6
-	-	11	-	-	2	1	1	-	-	1	15
-	-	1	-	-	-	1	1	-	-	-	2
-	-	26	-	-	1	-	-	-	-	-	27
-	-	43	-	-	3	3	3	-	-	1	50

ACCOUNTING DIV'S.

GEN. ACCT'G. PAYROLLS

Supervisors
Clerical
Total

-	-	-	-	-	-	-	-	-	-	-	8
-	-	-	-	-	-	-	-	-	-	76	76
-	-	-	-	-	-	-	-	-	-	84	84

DECLASSIFIED

SECRET

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	

ACCOUNTING DIV'S.	-	-	-	-	-	-	-	-	-	-	-
GEN. ACCT'G. ACCT'G.	-	-	-	-	-	-	-	-	-	-	-
Supervisors	-	-	-	-	-	-	-	-	-	9	9
Non Supervisors	-	-	-	-	-	-	-	-	-	6	6
Clerical	-	-	-	-	-	-	-	-	-	76	76
Total	-	-	-	-	-	-	-	-	-	91	91

EMPLOYEE & COMM. RELATIONS DIV.

Supervisors	-	-	-	-	-	-	-	-	-	21	21
Employee Rel. Counselor	-	-	-	-	-	-	-	-	-	1	1
Exempt non Super.	-	-	-	-	-	-	-	-	-	6	6
Clerical	-	-	-	-	-	-	-	-	-	44	44
Others	-	-	-	-	-	-	-	-	-	10	10
Total	-	-	-	-	-	-	-	-	-	82	82

PLANT SECURITY & SERVICE DIV'S.

Supervisors	5	5	6	5	5	9	6	8	-	3	52
Exempt non Supv.	-	-	-	-	-	-	-	4	-	-	4
Patrolmen	47	59	67	49	61	110	66	8	-	36	503
Clerical	-	-	-	-	-	-	-	14	-	2	16
Seamstress	-	-	-	-	-	-	-	1	-	-	1
Total	52	64	73	54	66	119	72	35	-	41	576

SAFETY & FIRE

Supervisors	8	-	-	-	-	4	4	10	-	4	30
Safety Engineers	-	1	-	1	1	-	1	-	-	1	5
Firemen	44	-	8	-	-	14	14	-	-	14	94
Inspectors	3	1	1	4	1	1	1	2	-	1	15
Clerical	-	1	-	1	1	-	-	-	-	2	5
Total	55	3	9	6	3	19	20	12	-	22	149

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9.

	100-B	100-D	100-F	100-H	200-E	200-W	300	Plant	3000	700-1100	Total
	Area	Area	Area	Area	Area	Area	Area	General	Area	Area	
Supervisors	-	-	1	-	1	2	-	1	-	14	19
Engineer	-	-	-	-	-	-	-	-	-	1	1
Laundry Operators	-	-	-	-	-	2	-	-	-	1	3
Janitors & Servicemen	5	6	7	7	5	15	13	-	-	35	93
Clerical	-	-	-	-	-	-	-	-	-	28	28
Others	-	-	-	-	-	31	-	-	-	42	73
Total	5	6	8	7	6	50	13	1	-	121	217

PLANT SECURITY & SERVICE DIV'S.

GEN. & OFF. SERV.

PURCHASING & STORES DIV'S.

PURCHASING

Supervisors	-	-	-	-	-	-	-	-	-	12	12
Exempt non Supv.	-	-	-	-	-	-	-	7	-	15	22
Clerical	-	-	-	-	-	-	-	-	-	38	38
Total	-	-	-	-	-	-	-	7	-	65	72

STORES

Supervisors	7	-	-	-	-	-	-	-	6	13	26
Clerical	12	-	-	-	-	-	-	-	28	40	80
Others	30	-	-	-	-	1	-	-	5	84	120
Total	49	-	-	-	-	1	-	-	39	137	226

COMMUNITY DIV'S.

Supervisors	-	-	-	-	-	-	-	-	21	109	130
Patrolmen	-	-	-	-	-	-	-	-	25	28	53
Firemen	-	-	-	-	-	-	-	-	43	53	96
Journeyman	-	-	-	-	-	-	-	-	-	182	182
Servicemen	-	-	-	-	-	-	-	-	-	37	37
Truck Drivers	-	-	-	-	-	-	-	-	-	36	36
Power Operators	-	-	-	-	-	-	-	-	-	45	45
Clerical	-	-	-	-	-	-	-	-	-	94	94
Others	-	-	-	-	-	-	-	-	-	57	57
Total	-	-	-	-	-	-	-	-	89	641	730

GRAND TOTAL

422	387	453	351	419	902	876	486	402	2766	7164
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DEFASSHE

SECRET

MANUFACTURING DIVISIONSFEBRUARY 1950**DECLASSIFIED**SUMMARYProduction Divisions

A total of 62.3 tons of metal was discharged at an average of 90 percent of the goal concentration. One-half ton was discharged at 137 percent of the goal concentration. The pile operating efficiency was 92.8 percent. The operating levels at month end were 275 MW at B pile, 305 MW at D and F piles, and 330 MW at H pile.

A total of 91 tons of acceptable slugs was canned at a yield of 93.2 percent. The machining yield of 77.3 percent set a new record high. The melt plant produced 19 tons of billets at a yield of 67.8 percent.

Sixty-eight batches were started in the Canyon Buildings, with 68 being processed through the Concentration Buildings, and 65 through the Isolation Building. The average purity of completed batches from Isolation was 98.6 percent.

Mechanical Divisions

The severe cold weather and excessive snowfall handicapped activities of the Division throughout the month and created a large volume of additional work. Difficulty was experienced with automotive equipment, freezing of water lines, intakes, and reservoirs, and ice endangering the Yakima River Bridge at George Washington Way. The temporary false work piling on the UP-NP Railroad Bridge was removed.

Inspection by boroscope of 87 safety rod thimbles revealed that 14 were corroded and will require replacement. Two stainless steel knuckle jointed safety rods having flexibility to accommodate thimble distortion resulting from graphite expansion were installed at 100-D.

The electrical demand of 88,200 KW for the entire electrical system reached an all time high coinciding with the cold weather.

The installation of the IBM temperature monitor system at 100-H Area was completed and is operating satisfactorily. It is planned to install similar units in 100-B, 100-D, and 100-F.

A twelve inch sanitary water line in the 200-E Area failed and was repaired. The reason for the break could not be established, but it was probably due to the severe cold weather.

Continuing progress is being made in reducing inactive Stores inventory. During the month \$15,158 worth of material was encensed.

C. N. Gross
C. N. GROSS, MANAGER
MANUFACTURING DIVISIONS

1212520

MANUFACTURING DIVISIONS
PATENT REPORT SUMMARY
FOR
MONTH OF FEBRUARY, 1950

DECLASSIFIED

Richland, Washington
 March 9, 1950

All persons engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report except as listed below. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

INVENTOR

TITLE

N O N E

C. N. Gross

C. N. GROSS

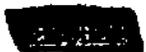
MANAGER, MANUFACTURING DIVISIONS

1212321

**DECLASSIFIED
WITH DELETIONS**

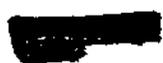
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DECLASSIFIED

March 6, 1950

P DIVISIONFEBRUARY, 1950I. GENERAL

The B, D, F, and H piles operated throughout the month except for outages listed under Area Activities. Power levels were as follows: B pile - 275 MW, D and F piles - 305 MW, and H pile - 330 MW. The piles operated with a "time operated" efficiency of 92.8%.

A new record machining yield of 77.3% was established during the month for machining 4" slugs from alpha rolled rods.

II. ORGANIZATION AND PERSONNEL

Number of Employees on Payroll - February	
Beginning of Month -	340
End of Month	341
Net Increase	1

D. S. Lewis, Assistant Chief Supervisor, assumed charge of the P Division Process Control Group on February 13.

J. T. Baker was promoted to Assistant Chief Supervisor of 100-B Area on February 1.

H. T. Wells, Assistant Chief Supervisor, assumed charge of the P Division Engineering Control Group on February 20.

J. A. Haaga was promoted to Assistant Chief Supervisor of 100-H Area effective February 1.

G. E. Carlton, Assistant Chief Supervisor, was transferred to 100-F Area on February 27.

H. E. Berg was promoted to Area Supervisor, 100-B and 100-D Areas, on February 1.

1212326

P Division

R. G. Clough was promoted to Area Supervisor, 100-H Area, on February 1.

P. P. Eddy was transferred from the H. I. Divisions to the P Division as a Supervisor-in-Training on February 1.

J. E. Hebert was transferred from the H. I. Divisions to the P Division as a Supervisor-in-Training on February 10.

One Steno-Typist B was hired.

One Field Clerk C was transferred to the H. I. Divisions and was replaced by a Field Clerk C from the 300 Area.

One 300 Area operator terminated voluntarily.

III. AREA ACTIVITIES

<u>PILE SUMMARY</u>	<u>PILE B</u>	<u>PILE D</u>	<u>PILE F</u>	<u>PILE H</u>
Time Operated (%)	93.2	87.5	90.7	99.5
Operating Efficiency (%)	92.2	86.1	89.5	99.3
*Power Level (MW)	275	305	305	330
*Inlet Water Temperature (°C)	5.0	5.0	4.7	4.9
*Outlet Water Temperature (Maximum °C., 10 tubes, 0.240" Zone)	46.6	45.9	49.7	53.4
Number of Scrams	2	1	2	8
Number of Purges	1	1	0	0
Helium Consumption (cu. ft.)	--	**43,202	15,546	--
CO ₂ Consumption (cu. ft.)	40,392	56,712	18,983	15,159
Metal Discharged (tons)	10.20	26.22	25.84	0
Inhours Gained (this month)	14	10	-47	69
*Inhours Poisoned	581	594	425	232
*Inhours in Rods	82	80	71	187

* Month end figures.

** Includes 14,000 cu. ft. for DR pile.

PILE BUILDING

Outage Breakdown

<u>Date of Outage</u>	<u>Metal Discharged</u>	<u>Scheduled Maintenance</u>	<u>Unscheduled</u>	<u>Length of Outage (Hours)</u>
* 2-1-50	F			31.4
(1) 2-1-50			H	0.2

* Includes time to discharge temporary poison.
 (1) Scram caused by defective #2 Beckman.

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P Division

Outage Breakdown (Cont'd.)

<u>Date of Outage</u>	<u>Scheduled</u>		<u>Unscheduled</u>	<u>Length of Outage (Hours)</u>
	<u>Metal Discharged</u>	<u>Maintenance</u>		
(2) 2-2-50			F	0.6
(3) 2-3-50			B	0.6
(3) 2-3-50			B	0.1
(2) 2-4-50			H	0.2
(2) 2-7-50			H	0.3
2-7-50	B			21.1
* 2-8-50	D			44.1
(2) 2-10-50			D	0.6
(2) 2-10-50			H	0.1
(2) 2-10-50			H	0.2
(2) 2-13-50			H	0.1
(2) 2-13-50			F	0.2
* 2-13-50	F			30.6
2-15-50	B			23.7
(2) 2-19-50			H	0.2
(2) 2-19-50			H	0.4
* 2-23-50	D			40.0

- * Includes time to discharge temporary poison.
- (2) Unit screamed when panellit alarms could not be reset.
- (3) Unit screams caused by power surges on the BPA system.

Operating Experience

Production tests having operational significance are reported below:

105-81-P (Probe Tests of Top Central Tubes)
The tubes listed below successfully passed probes as indicated:

<u>1.475"</u>	<u>1.480"</u>	<u>1.485"</u>
4586-D	4585-D	4574-B 4562-D
	4669-D	4660-B 4579-D
	4674-D	4687-B 4586-D
	4674-F	

105-103-P (Corrosion Rates at Elevated Temperatures, Supplement A)
Thirty-two tubes in F pile continued to operate throughout the month with reduced water flow in accordance with the provisions of this test. No unusual conditions were noted.

P Division

DECLASSIFIED

105-114-P (Van Stone Corrosion Studies)
Three front face Van Stone flanges on B pile which have been protected with aluminum nozzles for approximately four months were inspected and found to be in good condition.

105-168-P (Replacement of Pile Atmosphere with CO₂)
Replacement of the remaining helium in the B pile atmosphere continued. The CO₂ concentration at month end was 94%.

The 100-D and 100-F pile atmospheres were maintained at 60% CO₂ concentration through the month.

No unexpected changes in operating conditions have been observed.

105-276-P (Graphite Core Sample)
Tube Nos. 2273-D and 2290-D were removed preparatory to cutting graphite samples from the tube blocks. The samples were not drilled because of failure of the cutting device and, the process tubes were replaced and recharged.

105-278-P (Effect of Increased Enrichment Levels)
Two tubes of Group V material discharged at 135% of the current goal value and two at 139% of the current goal value showed some increase in the number of pieces classed as moderately and extensively blistered. There were no significant dimensional changes observed.

105-302-P (Power Level Increase - H Pile)
The operating level of H pile was maintained at 330 MW throughout the month in accordance with the provisions of this test. No unexpected operating conditions were observed.

A total of 47.04 tons of Group V (alpha rolled, triple dipped, completely transformed) material was discharged during the month. Of this amount 46.54 tons had an average concentration of the current goal value and 0.5 tons were discharged at an average concentration of 137% of the current goal value in accordance with the program of investigation of higher discharge concentrations.

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During the month the final 13.05 tons of Group IV (alpha rolled, triple dipped, partially transformed) material was discharged from the piles. All regular material in the piles is Group V material with the exception of 1.64 tons of Group I (gamma extruded 8") material and 1.25 tons of Group II (gamma extruded 4") which are scheduled for discharge during March, 1950.

Tubes 0485-B, 0553-B, 1293-F, and 3184-F, damaged during the discharge of stuck pieces reported previously, (see documents HW-15550-A and HW-15843-A), were replaced during the month. These tubes were returned to normal service.

Considerable difficulty was experienced with the panellit system of H pile during the month due to the unsatisfactory type of terminal at the connecting wires between individual gauges. Loose connections at these terminals caused numerous panellit alarms and six voluntary scrams were initiated when it was impossible to locate and correct poor connections within the specified time limit. Due to the serious and urgent nature of this condition immediate action was mandatory. With the procurement of a more satisfactory type "banana plug" terminal, replacement was begun immediately and is 95% complete at month end. Numerous leaking gauges were replaced during the month. The program of replacement with factory repaired gauges is more than one-third complete at month end.

Mechanical Experience

All horizontal and vertical rods are in satisfactory operating condition at month end except #20-D and #19-F which are tied out of service.

The rod guide was removed from #20-D vertical rod and a short external guide with internal shield was installed. The rod was operable after installation, but failed to operate prior to startup.

Vertical rod #19-F was out of service at month end due to an unsatisfactory thimble pressure test.

Rod repairs during the month included:

- a. Vertical rod #24-B, reported binding in January, was repaired by realigning the step plug.
- b. Knuckle rods were satisfactorily installed in positions #27-D and #33-D.
- c. Thimbles #13-D and #26-D which were found leaking were replaced.

P Division

- d. Horizontal rod #2-B failed to scram when the unit was shut down on February 7. This failure was corrected by replacing the two-way four-way valve.

A program of vertical rod thimble pressure testing and borescopic examination of the corrosion zone at the thermal shield was begun on B, D, and F piles during the month.

Repairs to the F pile downcomer interior baffle structure were continued during the month.

Repairs to the far side effluent line at H pile continued during the month. Attempts to apply bitumastic lining to portions of the line have been unsuccessful and a different application technique is being investigated.

Gas Processing Buildings

It has been observed that the percentage CO₂ in the H pile atmosphere has been decreasing and the percentage CO has been increasing. This appears to indicate that some oxidation of the graphite moderator is taking place. At month end the percentages of CO₂ and CO in the system appear to be levelling out at 92% and 6.5% respectively, but further observation will be necessary for confirmation.

Special Hazards

The installation of auxiliary shielding at the T seams on the experimental level of H pile was completed during the month.

Project Status

Below is summarized the status of P Division projects which are currently active.

- C-306 (Front Face Shielding Caps)
Eighty-three caps with attached shielding plugs have been received of the original order of 500. Approval of the Atomic Energy Commission has been requested to order additional caps to cover DR pile in addition to B, D, and F piles.
- C-323 (Replacement of Vertical Rods and Guides - B, D, and F Piles)
Complete and closed out.
- C-330 (Improved Ventilation, Bldg. 313-314)
Installation of facilities continued throughout the month.

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- C-347 (Nozzles Replacement)
The order for aluminum inlet nozzles has been placed and first deliveries are expected April 15, 1950. Plans are being made to start work on the piles sometime in April.
- C-355 (Pile Clearance)
Clearance for the near side of B pile will be provided during the outages planned for April and May. Action on the project at D and F has been postponed pending further evaluation of the graphite expansion problem at these piles.
- C-399 (Rolling Mill)
Preparation of the project proposal is proceeding.
- M-711 (Algae Filter)
No development work has been started because of cold weather.
- M-713 (Flexible Vertical Rod)
Fabrication of four alternate types of flexible rods will begin when materials now on order arrive.
- M-715 (IBM Individual Tube Accounting)
The H pile installation is complete and trial runs are in progress.
- M-721 (Pile Shield Restraining Clamps)
D and F pile installations are complete.
- M-723 (Repairs to 107-B Basin)
Preparations for the repair work have begun. This work has been held up by cold weather.
- M-725 (300 Area Burial Ground)
Complete except for the installation of a gate in the enclosing fence.

300 AREA - METAL FABRICATIONProduction Statistics

Production for the month of February was as follows:

Billets Produced	19 Tons
Rods Machined	124 Tons
Bare Pieces Machined	96 Tons
Acceptable Pieces Canned	91 Tons

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Melt Plant**DECLASSIFIED**

The casting yields were as follows:

	<u>January</u>	<u>February</u>	<u>To Date 1950</u>
Billet (Ave. per furnace run)	66.6	67.8	67.1
Billet (Yield from total scrap processed)	81.3	78.2	79.8
Solid Metal	87.1	87.0	87.0

A slight improvement in average furnace billet yield was attained during February. Efforts are being continued to reduce stopper rod breakage, which is adversely effecting the yield, by charging the major part of solid scrap in the bottom section of crucibles and by careful stopper rod alignment.

Machining

Machining yields were as follows:

	<u>January</u>	<u>February</u>	<u>To Date 1950</u>
	76.0	77.3	76.3

The yield for February is the highest attained for the machining of 4" slugs from alpha rolled rods. All rods were generally of good quality.

A total of 428 rods, which were alpha rolled from lead pre-heated billets during the February run at Simonds, were machined. The average yield was 78.6% and rod diameters ranged from 1.398" to 1.434".

A record shift production rate was established for the facing lathes on February 14 when 2376 slugs were faced.

Special gamma phase extrusion runs were made on February 17 and 24. On February 17 a total of 35 rods was extruded having the following nominal diameters: one 3.000", five 2.000", five 1.500", and twenty-four 1.405". Difficulty was encountered in shearing the 3.000" rod and the surface condition of the large rods was generally poor. On February 24, thirty-two additional rods were extruded having the following nominal diameters: ten 3.000", thirteen 2.000", and nine at 1.500". Graphite blocks were inserted between the billets and dummy blocks during the extrusion of 3.000" rods to eliminate the necessity of shearing. In addition, the dies were preheated before extruding the rods in each group to reduce poor surface on initial rods pushed through each die.

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The 1.500" and 2.000" gamma extruded rods are being prepared for shipment to KAPL as outlined in Document No. GEH-15,893, (Request for Natural Uranium Bar Stock). The 1.405" and 3.000" rods were requested by the Technical Division for experimental purposes.

Chip Recovery

The chip recovery yield was as follows:

<u>Yield</u>		
<u>January</u>	<u>February</u>	<u>To Date</u> <u>1950</u>
87.4	87.5	87.5

The entire chip recovery process was operated four shifts and the press an additional ten shifts. All chips were pickled and 38,354 pounds of TXB were produced.

The yield continues to be adversely effected by the decreased size of turnings included in turning scrap from machining.

Oxide Burning

The material burned was as follows:

<u>Weight Out - Pounds</u>		
<u>January</u>	<u>February</u>	<u>To Date</u> <u>1950</u>
18,299	20,157	38,456

Oxide on Hand at Month End (Metal Content)

To be burned	00.0 lbs.
To be analyzed	6,609.5
To be shipped	<u>15,158.8</u>
Total	21,768.3

Canning Operation

The canning yield was as follows:

<u>% Yield</u>		
<u>January</u>	<u>February</u>	<u>To Date</u> <u>1950</u>
93.9	93.2	93.6

Canning rejects, by cause, were:

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	Per Cent		
	<u>January</u>	<u>February</u>	<u>To Date 1950</u>
Non Seating	0.7	0.8	0.8
Marred Surface	2.0	2.9	2.4
Al-Si on Outside of Can	1.0	0.6	0.8
Frost Test	1.2	1.1	1.1
Bad Welds	0.3	0.4	0.4
Miscellaneous	0.9	1.0	0.9
	<u>6.1</u>	<u>6.8</u>	<u>6.4</u>

The lower yield for February resulted chiefly from an increase in marred surface rejects. A continued effort is being made to control this type of reject by emphasis on the careful handling of pieces. Al-Si rejects were reduced appreciably through improved crimping techniques. A crimping tool with a universal head is being evaluated.

The following special request pieces were canned:

<u>Request No.</u>	<u>Content</u>	<u>No. of Pieces</u>
P-10-A	Lithium Aluminum Alloy	402
P-10-D	Aluminum and U-235	51
ORNL-106	Thorium	536

In addition, 1,166 bismuth slugs and 64 receptacle slugs were canned.

Slug Recovery

	<u>% Recovered</u>		<u>Average Wt. - Lbs.</u>	
	<u>February</u>	<u>To Date 1950</u>	<u>February</u>	<u>To Date 1950</u>
Z Slugs	88.7	85.4	3.904	3.904
X Slugs	10.2	12.5	3.863	3.861
Rejects	<u>1.1</u>	<u>2.1</u>	---	---
	100.0	100.0		

Inspection and Testing

Autoclave rejects were as follows:

<u>January</u>	<u>February</u>	<u>To Date 1950</u>
.06/M	.20/M	.14/M

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Ten autoclave failures occurred during February; seven being completely destroyed and three ruptured at the base of the cap.

None of the canned pieces tested during the month were penetrated within 0.010" of the outer can wall. Two pieces were penetrated within 0.015".

The "as received" quality of cans, caps, and sleeves inspected was as follows:

	% Usable		
	January	February	To Date 1950
Aluminum Cans	94.4	92.0	93.2
Aluminum Caps	95.1	95.4	95.2
Steel Sleeves	95.2	*	95.2

* No new sleeves were inspected.

The decrease in yield for aluminum cans resulted chiefly from marred outer surface.

Material Handling

A total of 130 tons of rods was received from Simonds Saw and Steel Company. Eighty-one tons of billets were shipped to Simonds Saw and Steel Company and 19 tons of oxide (MD-2, MD-6, CRD-6, and C-6) were shipped to Mallinckrodt Chemical Works. In addition, 7½ tons of solid scrap (UM and G) were shipped to Los Alamos.

305 Test Pile

This unit was operated on a one-shift five day week schedule. A total of 43 tests was run on canned slugs, 27 on billet eggs, 209 on P-10-A slugs, and the following on special work requests:

<u>Request No.</u>		<u>No. of Tests</u>
124	To obtain tracks on lithium plates from exposure and to measure boron content of glass slides.	7
125	To test "Flamort" for possible boron content.	4
127	To measure absorption cross-section of aluminum alloys.	9

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<u>Request No.</u>		<u>No. of Tests</u>
128	To measure percent "blackness" of simulated P-10-A slugs to permit using the graphite stringer to test P-10-A slugs.	16
129	To measure absorption cross-section of PC tubes.	13
131	To measure purity of graphite bars to be used for special tests in the 105-H pile.	20
132	To irradiate gold foil.	1
133	To test P-10-D pieces to determine pile loading details.	29

Special Hazards

No unusual conditions developed during the month.

Development

Approximately 20 tons of alpha rolled rods were received from Simonds in the February shipment which had been coated with a 50% solution of Calol. Air samples were taken during the unloading and straightening operation to determine the effect on airborne contamination.

Results indicated that air contamination was reduced from an average of seven times tolerance for uncoated rods to two times tolerance for oiled rods during unloading. Air contamination during straightening was reduced from an average of seven times tolerance for uncoated rods to 1.3 times tolerance for oiled rods. The oil coating proved too heavy during the machining of rods and necessitated frequent cleaning of collets to prevent slippage. In addition, the solid scrap will require degreasing prior to processing in the Melt Plant. Tests are to be continued to determine the proportions of soluble oil that can be used without interfering with processing the rods and still gain the desired reduction in air contamination.

Ten tons of rods that were alpha rolled from billets preheated in a lead bath at Simonds have been machined. The rods were of good quality and ranged from 1.398" to 1.434" in diameter. Analysis of the billets processed from the scrap and 305 test results on the slugs will not be available until next month.

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March 7, 1950

S DIVISIONFEBRUARY, 1950OPERATING SECTIONI. GENERAL

Sixty-eight batches were started in the Canyon Buildings, sixty-eight batches were processed through the Concentration Buildings and sixty-five batches were completed through the Isolation Building. The average purity for completed batches was 98.6 percent.

Canyon and Concentration Building Production Performance Data -
(2-1-50 - 2-28-50, inclusive)

	<u>B PLANT</u>	<u>T PLANT</u>	<u>COMBINED</u>
Number of charges started	34	34	68
Number of charges completed	32	33	65
<u>For completed charges:</u>			
Percentage of starting product in waste:			
This month	3.1(a)	3.1(a)	3.1
Last month	3.1(b)	3.1(b)	3.1
Cumulative to date	4.2(c)	4.0(c)	4.1
Percentage of starting product recovered:			
This month	94.7	97.2	96.0
Last month	93.5	92.8	93.1
Cumulative to date	97.0	95.6	96.3
Percentage of starting product accounted for:			
This month	97.8	100.3	99.1
Last month	96.4	95.9	96.2
Cumulative to date	101.2	99.6	100.4
Gamma decontamination factor (Log.)			
This month	7.42	7.56	7.49
Last month	7.36	7.52	7.43
Cumulative to date	7.36	7.35	7.36

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(a), (b), (c): Include waste from processing recycle. The recycle wastes are estimated as: (a) 0.012%-T Plant; 0.014%-B Plant. (b) 0.010%-T Plant; 0.008%-B Plant. (c) 0.091%-T Plant; 0.009%-B Plant.

Isolation Building Performance Data (2-1-50 to 2-28-50, inclusive)

	% of Incoming Product				Material Balance
	Prepared for Shipment	Recycle	Waste	Retained Samples	
Average for this month	96.5	4.51	-0.12	-0.031	100.9
Average for last month	98.0	4.32	0	0.037	102.4
Average to date	95.9	4.64	0.08	0.02	100.6

II. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	380
End of month	382
Net increase	2

Remarks: The changes which occurred in the S Division are listed below:

- 2 new hires (monthly roll)
- 1 transfer from another division (weekly roll)
- 1 on leave of absence (weekly roll)

Changes in supervisory organization:

D. S. Thompson was employed as a Supervisor-in-Training on February 8, 1950.

T. H. Lyons was employed as a Supervisor-in-Training on February 28, 1950.

E. F. Smith, Senior Supervisor, was transferred from 221-B operations to the Process Control Group.

R. E. Toczek, Senior Supervisor, was transferred from 221-B operations to the Process Control Group to take charge of the supervisory training program.

J. D. Ryan transferred from the 234-5 operations to 221-B operations.

C. B. Foster transferred from 224-T operations to 221-B operations.

R. A. Hultgren, Shift Supervisor, transferred from the Process Control Group to 224-T as Acting Senior Supervisor.

D. C. Ashbaugh, Shift Supervisor, was transferred from 221-T to the Expansion Section.

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S Division

DECLASSIFIEDIII. AREA ACTIVITIESPRODUCTION PERFORMANCEB and T Plants and 231 BuildingExtraction Waste Losses - B and T Plants

The product content of the extraction step centrifugation effluent prior to rework increased approximately 0.20 percent of a standard run above the average experienced for the January series runs; at the same time, however, the throw-away loss after rework increased only 0.10 percent of a standard run. The Technical Division has in progress a study for the determination of Americium²⁴¹ and Curium²⁴⁰, which are alpha emitters present in these wastes, but no recent data for runs originating for 400 MWD/T metal have yet become available.

Significant data for extraction wastes are tabulated below:

	B PLANT		T PLANT	
	February	January	February	January
Analysis before rework	1.48	1.27	1.65	1.40
Analysis after rework (throw-away)	1.08	0.98	1.06	0.95
Average MWD/T	391	391	397	377

Reduced Metathesis Volumes (Production Test 224-T-13) B and T Plants

Production Test 224-T-13, which is for the purpose of developing improved procedures for the metathesis step operations in order to reduce F Cell time cycles, was moved to B Plant late in January for reevaluation of the final steps of the test. Due to abnormal operating conditions arising in F Cell at B Plant following an operating error, which was corrected through rather involved rework procedures, the test was suspended after seven runs had been processed using the new procedure and was not undertaken again until late in the month. As a result, no further data are available. As was stated in last month's report, it was indicated from the test carried out in T Plant that a twelve hour time cycle could be achieved for the F Cell process with a possible increase in waste losses of no more than 0.02 percent of a standard run.

Acid Wash Runs - T Plant

Two acid wash runs were completed through the T Plant Canyon and Concentration process during the month. Product pick-up experienced is tabulated below.

	PRODUCT PICK-UP		
	221 Bldg.	224 Bldg.	Total
* T-10-1-AW-1	28.6%	11.9%	40.5%
T-10-2-AW-2	36.2	9.2	45.4

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* Started through Canyon in January but completed in the Concentration Building in February.

Single Distilled Hydrogen Fluoride (Production Test 224-T-12) - T Plant

In order to establish another source of supply for single distilled anhydrous hydrogen fluoride for the lanthanum fluoride process in the Concentration Buildings, two thousand pounds of this material supplied by the Pennsylvania Salt Company were used during the month to process twelve runs through the lanthanum fluoride product and by-product steps in the T Plant Concentration Building. Since no adverse effects on the process and on waste losses were encountered, material from this source meeting the specifications of the test material will be approved for process by the Separations Technology Division.

Lanthanum Fluoride By-Product Time Cycles - B and T Plants

A test was started in January and completed during February which showed that digestion period at 350C during the oxidation of the lanthanum by-product cake rework can be reduced from one hour to thirty minutes without affecting the waste losses from the rework. This procedure was adopted as standard for both plants during the month.

WASTE DISPOSAL

Second Decontamination Cycle Waste Supernatant Cribbing - B Plant

With the cribbing of 137,000 gallons of second cycle waste supernatant from X-112-B tank during the month, the tank was essentially emptied. Approximately 497,000 gallons have been cribbed from this tank since the start of this operation in December.

Metal Waste Line Flush - B Plant

A partial obstruction appeared in the metal waste line running underground from the B Plant Canyon to the 241-BY waste storage farm. This condition was indicated by difficulty experienced with operation of the jet for transferring neutralized metal waste from the waste neutralizer to waste storage. A 10,000 pound flush with 10 percent sodium bicarbonate was successfully jetted through the line and no further difficulty has since been experienced.

Concentration Building Waste Settling Tank Sludge Depth - T Plant

Measurement of the sludge depth in X-204-T, which is currently being used to receive and settle T Plant Concentration Building wastes before discharge of the supernatants to an underground crib, showed ten feet, two inches of relatively compact sludge present. Wastes from a total of 226 runs have been sent to this tank since it was placed in service. Although this depth of sludge represents more than half the sludge capacity of the tank, it is anticipated that there is capacity for as much as 400 more runs, since past experience indicates further compacting of the sludge will take place.

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DECLASSIFIEDWaste Status

The status of the Waste Storage Areas as of February 28, 1950, is shown in the following table:

B Plant

Bldg. 241 Tanks	Waste	Percentage Full				Reserve Capacity in Batches to Process				
		B	C	BX	BY	B	C	BX	BY	Total
x101,2,3	Metal	100	100	100	7.0	0	0	0	654	654
x104,5,6	Metal	-	100	100	99.5	-	0	0	651	651
x201,2,3,4	Metal	-	100	-	-	-	0	-	-	0
x111,12	Metal	-	-	-	0	-	-	-	436	436
x104,5,6	1st Cycle	-	-	-	-	-	-	-	-	-
x107,8,9	1st Cycle	100	100	66.7	0	0	0	147	630	777
x110,111, 112	1st Cycle	-	100	41.8	-	-	0	255	-	255
x110	1st Cycle	-	-	-	0	-	-	-	210	210
x104,5,6	2nd Cycle	86.6	-	-	-	77	-	-	-	77
x110,11,12	2nd Cycle	67.4	-	-	-	188	-	-	-	188
x113,14,16 17	2nd Cycle	-	-	-	-	-	-	-	-	-

T Plant

Bldg. 241 Tanks	Waste	Percentage Full			Reserve Capacity in Batches to Process			
		T	U	TX	T	U	TX	Total
x101,2,3	Metal	100	100	-	0	0	-	0
x101,2,3,4	Metal	-	-	30.8	-	-	618	618
x104,5,6	Metal	-	100	-	-	0	-	0
x105,6,7,8	Metal	-	-	0	-	-	887	887
x107,8,9	Metal	-	100	-	-	0	-	0
x111,12	Metal	-	-	-	-	-	-	-
x104,5,6	1st Cycle	100	-	-	0	-	-	0
x107,8,9	1st Cycle	100	-	-	0	-	-	0
x109,10,11,12	1st Cycle	-	-	46.8	-	-	487	487
x110,111,112	1st Cycle	-	100	-	-	0	-	0
x115,118	1st Cycle	-	-	0	-	-	452	452
x104,5,6	2nd Cycle	-	-	-	-	-	-	-
x110,11,12	2nd Cycle	81.8	-	-	105	-	-	105
x113,14,16,17	2nd Cycle	-	-	-	-	-	1102	1102

MECHANICAL PERFORMANCECanyon Equipment Failures - B and T Plants

12512342 A description of equipment failures in B and T Plant Canyons, for

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which replacements were necessary due to excessive radiation making repairs impossible, is given below.

- a) At B Plant, the Section 7 extraction precipitator tank spray dip leg was found separated from the assembly and the entire assembly was replaced.
- b) The Section 19 precipitator to centrifuge "A" jet assembly at B Plant developed a serious steam leak at the wall connector and was replaced. Because this assembly had formerly been used in one of the sections where high radiation levels are encountered, repairs could not be made.
- c) The Section 13 precipitator weight-density instrument dip tubes at B Plant became plugged and were replaced.
- d) In T Plant the jet assembly for transfer of product solution from the Section 13 centrifuge catch tank to the Section 14 precipitator developed a leak at the flange on the discharge side of the jet and was replaced.
- e) In T Plant the centrifuge to cake dissolving tank jet assembly in Section 8 was removed for disposal when a leak developed at the wall connector of the jet discharge line. Water pressure tests of the piping through concrete disclosed that there was a leak on the pipe nozzle (No. 53) in the circular weld between the flange and the pipe. Since very high radiation levels in this cell precluded the possibility of making repairs, it was necessary to abandon this connector. Since there were no spare lines through concrete from Cell 8-R to Cell 8-L, it was necessary to provide a trench jumper and two cell connector assemblies in order to re-route the Section 8 centrifuge to cake dissolution tank transfer through the pipe trench. The spare assemblies were mocked up in the 221-U Canyon Building. Present routing of this transfer is centrifuge to trench via connector No. 81 (with connector No. 82 supplying steam to the jet), and from trench to the dissolution tank via connector No. 1.
- f) The 5 h.p. agitator for extraction Section 8 cake dissolving tank failed and was replaced.

Concentration Building Equipment Repairs - T Plant

- a) Reconditioning of the HF storage facilities was completed at the T Plant Concentration Building during the month. The storage tank was emptied and hydrostatically tested at 100 pounds. The relief valve was replaced and all other valves on the system were replaced with Teflon trimmed valves. In addition, measurements were made of the wall thickness of the storage tank, using a sonic device known as an "Audigage" which was recently acquired by the Instrument Division for this type work. These measurements indicate that there has been an appreciable decrease in the wall thickness of this tank, especially at the dished ends, as shown in the following tabulation of minimum thicknesses found. These measurements will be periodically taken in the future to determine

when replacements will be required to prevent failure in use.

	<u>Eqpt.Dwg.Spec.</u>	<u>E-1Y-224-T</u>	<u>E-1Y-224-U</u>
Dished Ends	0.3125"	0.21"	0.31"
Side	0.250"	0.23"	0.23"

IV. SPECIAL HAZARDS

Sand Filter Operation - T Plant

For the first fifteen months of operation, the sand filter efficiency at T Plant averaged better than 99 percent, but early in December at about the time a special dissolving of sixteen day aged irradiated metal was carried out, the efficiency dropped to well below 99 percent and has remained in this range since. At first the continued low efficiency figures were attributed to the presence of approximately one ton of undissolved metal with the short cooling time in one of the dissolvers and to the holding of the one ton of metal solution from the same source in metal solution storage. In February, however, this material reached the full 90 day cooling and was processed normally with the rest of the metal from the same push. There has been no change in pressure drops across various critical points in the system which would indicate any change in the operating characteristics of the filter. At month end a thorough investigation is being made of the gas sampling lines and apparatus to determine if a defect or contamination exists in these which could account for the low efficiencies presumably being obtained.

V. PROCESS CONTROL SECTION

Metal Waste Sludge Sampling

As mentioned last month, after several unsuccessful attempts to obtain sludge from a metal waste storage tank with apparatus provided by ORNL, revisions were made to the apparatus. Using this revised sampling equipment, 165 pounds of sludge were finally obtained from the X-101-U tank and this amount shipped. It is quite evident that more flexible apparatus will be required if sludge in any quantity is required in the future.

Dissolver Off-Gas Filters (Project C-337) and Silver Reactor

AEC approval was received for rescoping the Dissolver Off-Gas Filter Project for installation of the filter in the dissolver cell rather than outside the Canyon Buildings as originally planned. The final release and prints for the project have been issued, and at month-end, materials are being procured for the fabrication of the first filter.

The Silver Reactor experimental study has progressed to the point where the Technical Divisions have recommended plant installation for further study. A project is being prepared. An attempt is being made to get the project approved in time to make this installation in conjunction with the off-gas filters.

S Division

DECLASSIFIEDEquipment Decontamination Agents

Various tests were performed using a chelating agent known by the trade name "Versene" (Di-Sodium salt of Ethylene diamine Tetra Acetic Acid) to decontaminate various surfaces. Indications are that it is as effective as any agents previously used (among which are soap solutions and nitric acid) without being hazardous to personnel and corrosive to equipment surfaces. The principal detriment to the use of this material in large quantities, such as would be required in attempting to decontaminate the inside of process vessels, is that it is a very strong chelating agent which could conceivably remove radioactive materials from the soil beneath cribs where they are now held, or if introduced in waste storage tanks, make future recovery of metal ions present there more difficult. The use of "Versene" will be evaluated on a larger scale in the immediate future.

VI. EXPANSION SECTION1. RalaGeneral

Scope design is estimated to be 75 percent complete and detailed design 15 percent complete. Of eighty prints thus far received, twenty-five have been approved by the Working Committee. The rest are in the process of being studied, revised, or approved.

Fifteen work orders have been written for preliminary construction work. The estimate on these jobs is \$63,215.

The layouts for the dissolver cell and Cell TA have been agreed upon and detailed design is in progress. Cell TB is still being scoped. Preliminary construction work is fairly well scoped and has started with the removal of equipment from the cells.

Dissolving Equipment

The detailed design for the dissolving equipment, namely, the dissolver, scrubbers, scrubber catch tank and filter, is essentially complete and procurement will start in March.

Electrolytic Cell

The General Engineering and Consulting Laboratory is designing the electrolytic cell. The official authorization was delayed somewhat and work did not start until the middle of February. Since then two telephone contacts were made and a number of questions were answered by the Design Division. Progress reports are expected to start being received next month.

Analytical

Specification Letter #21, Revision 1, Analytical Space Require-

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ments, was issued during the month.

Nine MJ-3 laboratory scope sketches, prepared by the Technical Divisions, were given to the Design Division for scoping of the laboratory.

A Reviewing Committee, composed of members of the Technical and H. I. Divisions, has been established to review the design of special portions of the MJ-3 laboratory to insure its operability.

Cone Handling Equipment

The mechanical arrangement prints on the final product cone handling equipment were accepted by the Working Committee as a basis for the preparation of specification drawings and fabrication specifications.

One dimension of the Los Alamos product carrier needs to be changed slightly in order that the mechanism will function properly. Los Alamos has been requested to make the change and is at present considering the proposal.

2. Metal Waste Recovery Plant

General

A directive was received from the Atomic Energy Commission during the month authorizing an expenditure of \$150,000, to cover the cost of engineering work on this facility.

Removal of Waste from Tank Farms

The Engineering Flow Sketch and Design Instruction for scoping of the proposed system for removing waste metal sludge and supernate from the 241-U Area underground storage tanks have been approved by the Separations Committee. This information will be submitted to the Architectural Engineer as soon as certain contractual details are settled. The preliminary plan for the extension of the proposed system to the other tank farms in both the 200 East and West Areas is being developed.

Canyon Building Process Design

A survey of the 221-U Canyon Building has been made and a rough layout of the process equipment has been completed. Calculations indicate that the Feed and Waste Concentration Cells, which are the limiting features capacity-wise, will have adequate capacity to meet design requirements according to present flow sheet information.

Auxiliary Facilities

Preliminary prints for the 277-U Mock-Up Facilities and the 221-U Ventilation Facilities, including a sand filter, have

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S Division

been issued by Design and studied by the S Division.

3. UNH Conversion to UO₂

General

A directive was received from the Atomic Energy Commission authorizing a maximum expenditure of \$25,000 to cover the cost of engineering work during the scoping phase.

Investigation has revealed that design should proceed on the basis of a batch process, similar to that now in use by Mallinckrodt, since there is a lack of personnel and time in which to develop a satisfactory continuous process.

4. Redox

General

The Contact Engineer's Group was active in the review of Kellex scope, architectural electrical, ventilation and Class I vessel detail prints. Developments of particular interest are listed below:

Cell Wash Down and Fire Fog System

The Kellex proposal for the wash down system for all cells and the fire fog system to be incorporated in organic handling cells has been received and studied. The fire fog system will include a detection system and alarm for each cell, a manual fire valve at panel board of the corresponding cell controlling the flow of raw water from a special fire fog header to the fog nozzles, and provisions for boosting the pressure and assuring an adequate supply of water from the filtered water high tank via fire department pumper truck. A similar system will be utilized in the organic head tank enclosure in the silo area.

High and Low Speed Canyon Agitators

Data are currently being assembled by the Kellex Corporation to indicate the relative number and location of high speed propeller type and low speed paddle type agitators in the canyon equipment. This has assumed a rather large importance at this time because of the effect of the two types on lubrication and shaft water seal pipes in the cell wall pattern. This problem has not been completely resolved to date.

Dissolvers

Concurrent with the receipt of dissolver drawings from the Kellex Corporation, a decision was made to release the three U Plant dissolvers made available by the TBP renovation for possible Redox use. The use of these dissolvers is receiving consideration from the Design Division at the present time in light of the

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S Division

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savings involved, the changes in schedule and wall pattern which would result, and some rather major alterations which must be made to the proposed Kellex designs before they can be approved.

Auxiliary Facilities for 202-S

Design Basis letters for the 284-W Building (emergency generator installation) have been approved and the letters for the 211-S and 276-S facilities are currently undergoing minor revisions prior to final approval. These letters will form the basis for design of the outside facilities by the G. E. Power and Mechanical Design Group.

Silo Lighting and Viewing Window Studies

A study of the lighting and viewing window placement in the silo area has been received and is currently being studied. These studies recommend that at least two additional windows be installed for more complete viewing of the silo area. They also indicate that approximately 125 sodium vapor lights spaced on six foot horizontal centers and nine foot vertical centers over the face of the silo wall are necessary to provide adequate lighting in the silo area. These lights are placed in wall openings sealed from explosive vapors and properly shielded in the aqueous make-up area. The lights are replaceable from the various aqueous make-up levels.

Laboratory Waste System

As the result of cost studies on various types of waste disposal facilities for the 222-S Building, it has been agreed that hot aqueous wastes designated for storage in the 241-S Area will be accumulated in an outside tank near the 222-S Building and transferred on call to the 202-S Building neutralizer for treatment and disposal to the 241-S Area.

Connector Development

"Principlo" drawings of the remaining types of female connectors are currently being inspected and approved for model construction. Stellite test specimens deposited on Type 347 stainless steel have completed static and dynamic corrosion tests in the 300 Area at both room and elevated temperatures. As a result of these tests, it has been decided to use #6 Stellite deposited by shielded arc on the face of the Type 347 ss male connectors. On 309 SSb connectors used primarily on boil-up vessels, the same stellite will be used; however, it will be recessed so that there will be no contact between the stellite and the process solutions and vapors; the junction between the stellite and stainless steel being covered by the connector gasket. Samples of the insulating material to be used in the electrical connectors are currently being exposed to high level radiation and to hexene solutions to determine the stability of the materials.

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S Division

DECLASSIFIEDANN Market Survey

As a result of the ANN Market Survey, formal bids have been received from a number of potential vendors for the ANN to be used in the Redox program. These bids are currently being analyzed and it is expected that the contract for the material will be let in the near future.

Super Filtrol Slurries

Because of the large amount of flush water which must follow the transfer of Super Filtrol from the 202-S Building to the 241-S Area, the Manufacturing Divisions have requested that consideration be given to the installation of a tank in or near the 202-S Building which will allow the accumulation of several weeks' production of Super Filtrol wastes and permit the transfer of material to the storage area at less frequent intervals. The Design Division is currently studying the economics involved in the two locations.

5. First Cycle Waste Evaporation

The design scope, estimated cost and Project Proposal preparation have been completed covering fabrication and installation of a first cycle waste evaporator in each of the 200 Areas. The proposal has been submitted for approval. Every effort will be made to expedite this phase since it is essential that the first unit be placed in operation at the earliest possible date.

POWER DIVISION
FEBRUARY 1950

DECLASSIFIED

GENERAL

The break in the severe cold weather, which occurred on February 6, permitted the resumption of normal power operating conditions, and the discontinuance of emergency measures, such as the operation of the reuse water system, the heating of raw water, supplying additional heating facilities at various locations and recirculation of water in systems normally inoperative.

Regular coal shipments were discontinued on February 6, as a result of the miners' strike. Although small quantities of coal were obtained, coal stocks were reduced considerably during the month.

The annual inspection of several Power Division boilers was made by a Traveler's Insurance Company certified boiler inspector on February 23 and 24. One boiler in each power area was inspected.

PERSONNEL AND ORGANIZATION

No. of employees on payroll - February

Beginning of month 543

End of month 538

Net decrease 5

The indicated net decrease is the result of the resignation of two employees, the retirement of one operator, and the removal from payroll of two men on account of illness.

100 AREAS

Rains and melting snow during the month caused river water turbidity surges, which necessitated increases in coagulant feeds. Although turbidities as high as 95 ppm were encountered, water quality was maintained without difficulty. Coagulant feeds as high as 25 ppm were used for short periods, but the average feed rate for the month was approximately 8 ppm, which is the lowest February coagulant feed rate since the start up of operations.

Simulated power failure tests were conducted in the 100-B Area on February 7, in the 100 F Area on February 13, and in the 100 D Area on February 23, to obtain information on the performance of affected equipment.

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DECLASSIFIEDPower Division

The No. 6 refrigeration unit in the 189 Refrigeration Building in the 100 D Area was removed from its base and space made available to the Design and Construction Divisions for the installation of a heat transfer test unit.

Satisfactory progress was made during the month on the installation of 14-inch deaerator by-passes in the 185 Deaerator Buildings in the 100 B and F Areas.

A broken vent on the export line inside the 100 D Area, which occurred at 10:30 p.m. on February 7 required sectionalizing the export system for several hours. The system was returned to normal at 9 a.m. on February 8.

In the 100 F Area, 190 Process Pump House, the No. 11 process water pump motor tripped out on February 3, causing a 15 psi variation in process water pressure. This unit had been placed in service on January 31 after the motor and controls had been inspected and tested. The trouble was found to be in the overload thermal relay and repairs were completed on February 7.

In the 100 H Area, 190 Process Pump House, the silicate injection pumps were connected to the dichromate injection system and will serve as spare units. Also, at this location the replacement of the 30-inch water flow control valve on No. 2 tank with a 14-inch valve was completed and placed in service under controlled conditions on February 16. The No. 2 process water storage tank was returned to service at the completion of this installation.

200 AREAS

Installation of two by-pass valves in the coal transfer conveyor at the 284 Boiler House in the 200 West Area was completed on February 7, and work started on February 28 on the replacement of the 5 h.p. motor drive with a 10 h.p. unit. This work is part of the MJ-2 Project.

Alterations to the supply plenum relief dampers at the 234-5 Building were completed on February 7. Performance of the recently installed automatic controls for these dampers in satisfactory, maintaining constant plenum pressure under strong wind conditions.

The No. 5 EM exhaust fan serving the 234-5 Building was removed from service on February 6 because of excessive vibration and heating of bearings. Both the inboard and outboard bearings were found faulty and replacement with new bearings was completed on February 14. Representatives of the Fafnir Bearing Company and the Arthur Forsythe Company inspected the exhaust fans in operation and examined several bearings which had previously failed on these units. Records of operating time and lubrication data pertaining to bearing failures was forwarded to the manufacturers and their recommendations are expected at an early date.

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Power Division

A shutdown of the ventilation system at the 234-5 Building was effected from 12:10 p.m. to 3:10 p.m. on February 19. New quick action pilot control valves were installed on all zone damper controls, replacing the existing Johnson pilot valves. The steam driven emergency exhaust fans were operated during this shut-down. Considerable improvement in the control and stability of the ventilation system resulted from the installation of the new pilot valves.

A break in the 12-inch sanitary main near the 283 Filter Plant in the East Area, which occurred at 5:30 a.m. on February 1, resulted in this line being out of service till repairs were completed on February 7. During this period water was supplied to the area through a temporary line which by-passed the break.

300 AREA

On February 19, an underground water leak in the vicinity of the First Aid Building was found to be in an old temporary 2-inch steel line. This line was blanked off and normal service resumed on February 20.

- Insulation of the Nos. 1 and 2 boiler settings with plastic coating was completed February 9.

101 SHOPS

On February 26, water was found leaking through the roof of the raw storage room. Investigation revealed a drain pet cock missing from the bottom of the spray water pump on the No. 205 air conditioning unit. Water from this drain had worn a hole through the roofing and was leaking into the building. The spray pump had been previously removed from service and had been started by mistake before the drain cock was replaced.

WHITE BLUFFS ICE PLANT

Several isolated water lines in the outlying sections were damaged by freezing. Repairs had been completed at the month's end.

No ice was manufactured during the month.

POWER ENGINEERING SECTION

The principle activities of the Results and Engineering Section included budget work, preparation of reports on simulated power failures and continuation of work on operating manual revision.

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POWER DIVISION STATISTICS

From February 1, 1950

Thru February 28, 1950

A R E A S

RIVER PUMP HOUSE (Bldg. 181)

	100-B	100-D	100-F	100-H
River state Feet above sea level	(max) 388.2	380.2	366.8	371.8
	(min) 386.0	378.8	365.3	370.2
	(avg) 387.2	379.4	365.9	371.2
River temperature	avg. of, 36.5	37.0	37.4	36.9
Water to Reservoir	gpm avg. rate 38,466	39,805	36,732	47,271

RESERVOIR (Bldg. 182)

Water to Filter Plant	gpm avg. rate 33,896	35,442	33,110	43,633
Water to Condenser System	gpm avg. rate 2,988	2,753	3,097	3,418
Water to Export System	gpm avg. rate 1,582	1,610	525	220
	gpm nor. rate 3,937	3,937	3,937	3,937
Chlorine added # 1 inlet	pounds 7,845	8,413	3,000	3,000

FILTER PLANT (Bldg. 183)

Filtered water Power House	gpm avg. rate 276	309	305	277
Filtered water to Process	gpm avg. rate 31,502	31,110	29,440	36,759
Filtered water to Construction	gpm avg. rate ---	---	---	---
Filtered water to DR Process	gpm avg. rate ---	---	---	---
Filtered water Fire & San.	gpm avg. rate 178	227	154	208
Chlorine for Water Treatment	pounds 4,055	2,186	2,000	5,000
	ppm avg. ,96	,81	,42	,53
Lime for Water Treatment	pounds 32,100	28,360	21,000	24,000
	ppm avg. 2.8	2.4	1.9	1.6
Coagulant Water Treatment	pounds 83,720	96,420	95,680	111,520
	ppm avg. 7.3	8.1	8.6	7.6
Raw Water pH	pH avg. 7.98	8.07	8.10	8.10
Finished Water pH	pH avg. 7.71	7.75	7.73	7.77
Alkalinity, M.O. -Raw	ppm avg. 63	63	64	66
Finished	ppm avg. 61	58	60	62
Residual Chl. -Settled-	ppm avg. .22	.15	.18	.18
Finished	ppm avg. .14	.09	.15	.11
Iron - Raw	ppm avg. .25	.30	.35	.25
North Clearwell	ppm avg. .01	.01	.02	.01
South Clearwell	ppm avg. .02	.01	.02	.01
Hardness - Finished	ppm avg. 83	79	68	67
Turbidity - Raw	ppm avg. 10.1	10.3	11.0	13.0
Filtered	ppm avg. 0	0	0	0

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Power Division

From February 1, 19 50

Thru February 28, 19 50

		100-B	100-D	100-F	100-H
<u>POWER HOUSE (Bldg. 184)</u>					
Maximum Steam Generated	lb/hr	176,000	192,000	182,000	276,000
Steam Generated - Total	M pounds	93,964	102,930	99,232	93,660
Avg. rate	lbs./hr.	139,827	153,169	147,666	139,375
225 psi Steam Plant (Est.)	M pounds	78,868	86,472	83,335	78,611
15 psi Steam Plant (Est.)	M pounds	813	813	813	813
Coal Consumed	Tons	7,284	7,920	7,752	7,317
Coal in Storage (Est.)	Tons	15,405	16,733	14,382	15,224

DEAERATOR PLANT (Bldg. 185)
AND 190-H TANK ROOM

Water Flow	spm avg. rate	31,252	30,860	29,190	36,509
Chemicals consumed:					
Dichromate	pounds	21,600	20,900	16,000	33,000
Sodium Silicate	pounds	0	0	0	0
Chemical Analysis:					
pH	pH avg.	7.64	7.65	7.69	7.67
Dichromate	ppm avg.	1.8	1.8	1.8	1.9
Silica	ppm avg.	---	---	---	---
Dissolved Iron	ppm avg.	.01	.02	.02	No Anal.
Free Chlorine	ppm avg.	.10	.11	No Anal.	No Anal.

PROCESS PUMP ROOM (Bldg. 190)

Total Water Pumped	gpm avg. rate	31,077	30,685	29,015	36,334
	gpm Nor. rate	31,996	32,127	31,120	40,500
Water Temperature	avg. °F.	39.8	41.0	40.1	40.1

VALVE PIT (Bldg. 105)

Chemicals Consumed:						
Solids	pounds	1,400	2,000	0	0	
Chemical Analysis:						
A, B, C & D Headers						
<u>Standard Limits</u>						
pH	7.5-7.8	pH (max)	7.70	7.70	7.70	7.70
		(min)	7.60	7.60	7.65	7.60
		(avg)	7.65	7.65	7.68	7.65
S ₁₀₂		ppm (max)	---	---	---	---
		(min)	---	---	---	---
		(avg)	---	---	---	---
Na ₂ Cr ₂ O ₇ 1.8-2.2		ppm (max)	2.0	2.1	1.9	2.3
		(min)	1.8	1.9	1.8	1.9
		(avg)	1.9	1.9	1.8	2.1
Iron		ppm (max)	.02	.08	.02	.02
		(min)	.01	.01	.01	.01
		(avg)	.01	.02	.02	.02
Chlorides	1212354	ppm (avg)	1.2	1.1	1.1	1.3

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Power Division

From February 1, 1950

To February 28, 1950

	<u>Unit</u>	<u>200 Areas</u>	
		<u>200-E</u>	<u>200-W</u>
<u>Reservoir (Building 282)</u>			
Raw Water Pumped	gpm avg. rate	<u>1,867</u>	<u>2,069</u>
<u>Filter Plant (Building 283)</u>			
Filtered Water Pumped	gpm avg. rate	<u>336</u>	<u>743</u>
Chlorine Consumed	lb.	<u>172</u>	<u>177</u>
Alum Consumed	lb.	<u>1,294</u>	<u>4,887</u>
Chlorine Residual-Sanitary Water	ppm	<u>.8</u>	<u>.3</u>
<u>Power House (Building 284)</u>			
Maximum Steam Generated	lbs/hr	<u>54,000</u>	<u>151,000</u>
Steam Generated - Total	m lb	<u>23,116</u>	<u>56,988</u>
Steam Generated - Ave. Rate	lb./hr	<u>34,399</u>	<u>84,804</u>
Coal Consumed (Est.)	tons	<u>1,689</u>	<u>4,209</u>
Coal in Storage (Est.)	tons	<u>5,076</u>	<u>6,852</u>

300 Area

Power House (Building 384)

Maximum Steam Generated		<u>42,320</u>
Steam Generated - Total	m lb	<u>17,672</u>
Steam Generated - Avg. Rate	lb./hr	<u>26,298</u>
Coal Consumed - Total (Est.)	tons	<u>1,473</u>
Coal in Storage (Est.)	tons	<u>1,383</u>

Sanitary and Fire System (300)

Sanitary Water (From 3000 Area)	gal	<u>28,754,000</u>
Well Water Pumped - Total	gal	<u>232,500</u>
Total Water Pumped	gal/day	<u>1,035,160</u>
Total Water	gpm avg. rate	<u>719</u>
Chlorine Residual	ppm	<u>.3</u>

MISCELLANEOUS AREAS

<u>White Bluffs</u>		
Ice Manufactured	212355 lbs	<u>0</u>
<u>101 Shops</u>		
Coal Consumed	tons	<u>382</u>

DECLASSIFIEDINSTRUMENT DIVISION
MONTHLY REPORT

FEBRUARY, 1950

February 28, 1950

GENERAL

Demand for the services of the Instrument Development group continues to grow. Additional engineers and space are required to meet this demand. A project proposal is being prepared for the construction of an Instrument Laboratory in the 300 Area. The Laboratory would include Instrument Development, Advanced Measurements, portable radiation detection instrument repair, and associated activities.

100 AREAS

The quadrant monitor system which is being tested as a possible pile power level indicator continues to give trouble. Insulators within the chambers fail after exposure in the pile. On 100-B unit shutdown resistance checks of each chamber confirmed the suspicion that only one chamber of the four is operative. No replacements have been constructed due to lack of a proven design.

Special power interruption tests were conducted in 190 B, D and F Buildings during the month. These tests were similar to the test conducted in 100-H on January 26, 1950, using a 16 mm. moving picture camera to record data from a special test panel.

Present status of pressure monitor gauge replacement program in 105-H is as follows: rebuilt gauges installed - 656; rebuilt gauges on hand - 160; rebuilt gauges needed - 1239.

Five thousand banana plugs were ordered and received to make up new type jumpers for the pressure monitor electrical connections. Fabrication of jumpers and installation should be complete early in March. These improved jumpers should reduce the number of alarms on the panel and corresponding controlled shutdowns.

Shutdown Experience

The following controlled shutdowns were made by P. Division operators due to the impossibility of resetting pressure monitor alarm within the 20 seconds limit.

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100-D	Feb. 10,	10:58 PM
100-H	Feb. 1,	1:31 PM
	7	1:46 PM
	10	9:55 AM
	10	3:55 PM
	13	11:48 AM
	19	10:51 AM
	19	9:12 PM
100-F	Feb. 2	12:00 NOON

On February 13 at 1:06 PM the 100-F Area unit was scrambled. The Power Division was putting #10 pump in 190 Building on the line in preparation for a test to be run at 3:00 PM. Pressure was bumped to 370 psi., a number of gauges in the pressure monitor system gave high pressure alarms and could not be reset in the allotted 20 seconds.

On February 2 at 1:05 AM the 100-H Area unit was scrambled. Annunciator tab indicated that #2 Beckman was the cause. The Beckman was replaced.

Studies

Proposal on replacing all 50 psi. range gauges in 100-B Area and 100-F Area pressure monitor systems with 100 psi. range gauges was rejected by "P" Division. Work will continue on modification of all 45-95 psi. range gauges to 45-115 psi. range as conditions require replacement.

200 AREAS

T & B Plants

Rotation of the objective head of the periscope of the 75 ton crane in 221-B failed due to a seized bearing.

Since procuring a supersonic thickness gauge it has been possible to start a program of measuring wall thickness of chemical storage tanks from one side only. During the month over 1800 measurements were made on the anhydrous hydrofluoric acid tanks in 211 and 22A T & B.

Construction Project MJ-3

Work has been started on removal of existing instruments from Sections TA and TB in 221-T, preparatory to reconditioning and modification. Approximately 40% of these instruments have been removed to date.

Z Area

A high leak rate in the vacuum system of Hood 14, Building 234-5, was experienced in furnace No. 2. The Miller tubes were replaced to eliminate possibility of error in pressure readings. Extensive leak checking over a period of six days revealed several leaks on the "goose-neck" section of the vacuum system and at the Bourdon gauge connection. Temporary repair was made to the "goose-neck" until a new one is available

1212357



and an acceptable leak rate obtained. After failure of one thermocouple on Hood 14, couples were changed on both furnaces. Failure may be attributable to oxidation.

A ventilation system shutdown on February 19 afforded opportunity for putting into service the Moore positioners on the supply damper controllers. Normal ventilation conditions were maintained during the change-over from the original Johnson positioners and better stability of control than that anticipated has been experienced from the replacement positioners. It has been found that material access doors may be opened, supply fans changed and air locks violated without seriously upsetting the system. This change of control response will no doubt affect the plans for construction of an air lock for the material access door.

With the addition of two mechanics to the Building 234-5 crew, monthly routine maintenance schedules have been put into effect. Until this time routine work has been delayed due to urgent maintenance requirements.

300 AREA

MANUFACTURING SECTIONS--

C-333 - H. I. Operational Division Survey Instruments

55 Portable Poppy Probes

Probes have been completed, tested and one ready for delivery.

17 Portable Poppy Chargers

These units are being modified to provide a slower charging rate as a protection factor for the high voltage condensers.

31 Constant Air Monitors

Sufficient information is not available to proceed with this part of the project. The Instrument Development group is preparing design specifications for the manufacture of a prototype.

16 C.P. Survey Meters (Revised Model)

Design has been altered to provide a fourth operating range and a prototype is being expedited thru the shops.

OPTICAL SECTION

A Work Order has been received to convert the two C-Area crane periscopes for application to the 202-S Building (MJ-1). Active work is now in progress in both the Design Section and the Machine Shop.

Two special periscopes and one special power supply are being manufactured per request of the D&C Division.

1212358



A request was received from the D&C Division to revise an outdated estimate on the cost of manufacturing a periscope for the 241 storage tanks. After submitting a revised estimate and preliminary sketch to the desired specifications, subsequent developments now indicate that a preliminary light-intensity study is needed to establish firm operational requirements. This study is scheduled for the first of next month.

MAINTENANCE SECTION

Portable Instrument Shop

The rubber hydrochloride that is being used to replace nylon films on the Alpha Survey instruments does not permit accurate indication at high-level radiation intensities. Nylon film is no longer available. This problem is being investigated by the Instrument Development group.

303 Area

Instruments for the extrusion process in the 314 Building were calibrated and put in service for a special process operation.

321 Building

Effective February 2, the Instrument group assumed responsibility for maintaining Building 321 air conditioning instruments.

3706 Building

A Hanford Works modification of the KAPL fluorimeter for measuring low level alpha emissions has been completed and put in service in the laboratory. The Technical Division reports that the instrument is working very satisfactorily. A continuation of testing is in progress to decide if additional instruments are to be made.

DEVELOPMENT SECTION

Temperature Mapping for 100 Area

Report HW 16092 describing the proposed system for mapping the process tube outlet water temperatures at a pile in 5 seconds has been completed and is being issued. It is recommended that the important features of the proposed system be demonstrated on a small scale field test which will provide the scanning of 46 process tubes.

P-11 Project

All radiation counting and recording equipment has demonstrated satisfactory performance in the laboratory tests. Installation work at the site is nearing completion, even though final checking of the instruments has been handicapped by delays in other phases of the work.

Slug Detector

On February 7, a meeting was held with representatives of the Plant Security and Services Divisions. General details of the proposed detector location and arrangement of shielding were discussed. It was decided that the Plant Security and Services Divisions would request the preparation of an informal project proposal to cover the planned installation. A cost estimate of the instrumentation of the two detector units has been prepared and forwarded to the Project Engineering Divisions.

Temperature Monitor - I.B.M. System

The installation at the 100-H Area has been operating satisfactorily since its completion on January 27. A field inspection of associated equipment at areas 100-B, 100-D and 100-F is being made to determine the extent of changes necessary to install similar equipment at these locations. Additional funds may be required to complete this project in all areas.

700 AREA SECTION

Per request of the Community and Public Works Division, chart changing and routine maintenance has been discontinued on the temperature recorders for the commercial facilities.

DESIGN & CONSTRUCTION GROUP

MJ-2 Project - Phase I (234-5 Building)

In recent conferences it was decided that the temporarily installed pressure control on the supply plenum was satisfactory and that the only additional equipment required was a damper operator which would fail safe and a pressure recorder with alarm and safety contacts mounted on the main panel. Bids on this equipment are expected by March.

Tests run on the pressure relief duct showed that the theoretical capacity could be obtained by removing the rain louvers and by opening the dampers completely. The damper was opening only 64°. Duct capacity with above corrections is 105,000 CFM at 1.83" S.C. plenum pressure.

MJ-3 Project - Radioactive Lanthanum

Progress on Cell 5 Instrumentation

1. The Instrument Panel Arrangement for Cell 5 is complete.
2. A tentative Material and Equipment list is complete.
3. Instruments not available on the plant have been requisitioned. No quotations from vendors have been received.
4. An Instrumentation Flow Sheet is complete and preliminary prints have been issued for comment.
5. Piping prints for individual panels is well under way with one complete print now issued for comments.

1212360

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6. Orifices calculations have been made on water flows and off-gas flows, and drawings on these have been issued for comment.

Instrumentation for the remainder of the project is progressing satisfactorily.

MJ-1 Project (Redox)

Twenty-four requisitions have been received from Kellex to date. Seventeen were returned to them for corrections. Seven have been sent to the Purchasing Division. These requisitions account for approximately 75% of the instruments to be mounted on panels.

Twenty-one instrument engineering flow diagram prints have been received from Kellex to date.

A review of the MJ-1 laboratory ventilation system control was made and comments prepared. We believe that instrument specification should be written up in detail on this ventilation system if good control is to be obtained. Experience gained from the ventilation system control of Building 234-5 should prove a valuable aid in preparing these specifications.

1212361

MAINTENANCE DIVISION
FEBRUARY, 1950

The Maintenance Division backlog at the close of the month was 6,156 mandays of work, which is a 1.1% increase over the previous month.

100 AREAS

Because of internal damage done by pushing out stuck slugs in the "B" area pile, process tubes #0485 and #0553 were removed and replaced with new tubes. The "D" area pile process tubes #2273 and #2290 were removed, to permit the Technical Division to take graphite samples from the bore.

Vertical safety rod thimbles in three pile units were inspected by boroscope and the following were noted as being in poor condition due to internal corrosion:

"B" pile - thimble 17, 18, 20, 26, and 34
"D" pile - thimble 14, 17, 24, 26, 29 and 35
"F" pile - thimble 19, 25, and 37

Vertical safety rod thimbles #13 and #26 in the "D" pile, which had been pressure tested and found leaking from corrosion were replaced.

Due to movement of the "D" pile and resulting offset of the thimbles safety rod #27 and #33 would no longer satisfactorily enter the pile and have been out of service for several weeks. They have been replaced with stainless steel knuckle jointed rods, fabricated in our shops. These rods have sufficient flexibility to enter the thimbles and are now functioning satisfactorily.

The condensate sight glass on the drip legs of the steam lines servicing the 105-H steam turbines have been removed. This was done to preclude recurrence of sub-major injury to employees based on a recent experience.

The Fisher governor valves to the 190-H pump drive turbines are being machined to provide sufficient clearance to prevent sticking. Valves corrected to date are #1, 2, 4, 14, and 16.

200 AREAS

The water supply into Hood #8 of the 234-5 process line was changed from series operation to parallel operation. This allows either the cooling coil or gas jet header to be operated and controlled separately, thus eliminating condensation within the hood. A special Kerbate lining was fabricated and installed in the jets to minimize erosion which is expected to increase their service life.

1212362

Maintenance Division

In order to replace a fractured Saren line fitting in Hood #7 in process line of Building 234-5 an additional glove port was installed. This eliminated the need of building a special green house or enclosure to do this work and resulted in a considerable overall savings in direct cost and shutdown time.

The press assembly in Hood #19 of the 234-5 Building process line was completely releveled. The base plate was found to be .060" out of parallel with the press head. The base plate was securely fastened down and regrind to within .001" of parallel to the press head. A new press can was installed in the operation and the resulting production was within manufacturing tolerances.

A gasket failed in the glass lined evaporator vapor tower in process hood #29, Building 234-5. Inspection revealed that the adjoining 30" glass lined spool piece was badly pitted. Replacement was made while the unit was disassembled.

Due to continuing difficulty with heating and failure of the 292-Z exhaust fan bearings, the representatives of the bearing and fan manufacturers were requested to come to the plant for an inspection of the installation. Following this two of the failed bearings removed from EM-5 fan were sent to the factory for study. The recommendations of the bearing manufacturer are being solicited to improve the service of these fans.

The hydrofluoric acid storage tank, piping and valves in the West Area Concentration Building were inspected and the valves were replaced with the Teflon plug type. The reconditioned system was tested for leaks.

Eight valves in the hydrofluoric acid system at the Canyon Tank Farm, 200 East Area, were replaced with Teflon plug type valves. These valves equipped with a Teflon plug are a special adaption developed by the Maintenance Division to eliminate sticking or replacement due to a plug failure.

During the extremely cold weather at the first of the month, a 12" sanitary water main failed near the 200 East Area reservoir. Due to the difficulty of repairing the break within a reasonably short time, and the necessity of providing service to the area while repairs were made, a 6" temporary line was installed above ground between two fire hydrants 400 feet apart.

The 200 East Area shops completed fabrication of 16 Canyon cell replacement pipe assemblies and one canyon trench pipe assembly used in a process flow change.

300 AREA

The "A" furnace in the 314 Building melt plant was overhauled. A new turntable drive shaft, worm wheel, casters, packing gland, and packing rings were installed.

1212363

Maintenance Division

A 3" packed and a 3" plate pulse column were fabricated and installed in the 321 Canyon in connection with the MJ-4 development program of the Technical Division.

The Watson - Stillman rod extrusion press in 314 Bldg. was reactivated from layaway condition to permit a test run making a special extrusion for development purposes.

1212364

DECLASSIFIEDELECTRICAL DIVISIONFEBRUARY, 1950GENERAL

The backlog of scheduled work for the Division at the end of the month was 8,954 mandays, a net reduction of 904 mandays during the month. This reduction was mainly in substation maintenance and line crew backlog, principally because of cancellation of some work and the completion of other work in less than estimated time.

The attached load chart for the peak day of the month, February 3, shows a peak of 88,200 KW for the entire system with a coincidental demand of 33,800 KW for the combined 115 KV and 66 KV systems. This is an all-time new peak demand coinciding with the coldest weather (-24°F) of the winter season during the morning period, 7:30 to 8:00 a.m. It had been hoped that the off-peak pumping control in effect all winter (183 River Pumps) would reduce the seasonal peak by 1800 KW with corresponding savings of \$31,500 based on \$17.50 per KW year demand rate. However, during the first days of February, such control had to be discontinued as it became necessary to keep pumps in operation so as to prevent freezing of intakes and pumps, several of the latter having been frozen. Hence, the hoped for savings were not realized.

Blackout requirements for the Village of Richland, North Richland and 300 Area have been discussed with the Security sponsored committee. Reinstatement of Budget Item B-856 has been requested covering only supervisory control for the 115 KV system to enable immediate blackout should the occasion arise.

The Electrical Standards Subcommittee has reviewed and adopted standards for outside line drawing symbols.

An agreement has been made with Project Engineering Division for interchange of engineering personnel, as work load permits, for periods approximating one year. This interchange is intended to provide a broader training and experience for the development of young Engineers and will also prove mutually beneficial to the two Divisions. Preliminary arrangements have been completed to exchange two men on this basis.

AREA ACTIVITIES

Assistance was given as necessary toward successful completion of power failure tests at 190 Buildings, 100 B, D and F.

Project M-718 (Immersion Heaters for Evacuation Buses) is now complete in all areas.

In the 300 Area, a further dipping furnace is being rebuilt in order to minimize element failures as was achieved with other similar furnaces.

Electric services have been connected to the new temporary Melting and Fabrication Building, 3730 (Project C-330).

After communication with manufacturers, Activated Alumina has been substituted for Magnesium Perchlorate as a drying agent for the gas of the 3745-A Building

Electrical Division



) 2,000,000 volt X-Ray unit. The change was made because Magnesium Perchlorate is a definite explosion hazard.

All inside electrical maintenance work is normal and up to schedule in each area.

TRANSMISSION AND DISTRIBUTION

Because of excessive deflection and one instance of cracking at the center phase suspension, four cross-arms have been replaced with heavier timber in the new 115 KV transmission line. Instructions have been issued to test several representative cross-arms to destruction so as to determine whether the margin of safety in design is ample despite a tendency toward excessive deflection under normal load.

The 230 KV line re-routing at the west tap to 151-D Substation has been completed, permitting Subcontractor to proceed at the 190 DR Water Plant site.

Temporary transformers have been removed from the Richland North Commercial Areas, and installation of the three transformer banks, just received, and final connections have been completed.

Metering is being installed on ten representative residences in Richland to verify estimates of energy consumption and demand.

At the request of the Community Division, services have been disconnected from all buildings in Columbia River Camp to permit dismantling.

Two power surges on the Bonnoville Power Administration system resulting from troubles on the Midway-Ellensburg line during extremely cold weather caused scrams to 105-B at both 8:04 a.m. and 5:45 p.m. on February 3. Stable conditions were restored in time to preclude extended shutdown.

TELEPHONE SYSTEM

Installation of customer services, telephone instruments, and cable splicing in Richland continues at an accelerated pace, using twelve temporary employees.

During the month, 604 new residential and 25 new commercial installations were completed.

Telephone cable installation plans have been reviewed with Design and Construction Divisions for 190-DR Water Plant, as well as telephone requirements for the final area including voice-powered telephones for inter-communication.

A summary of current telephone service rendered by the Richland Telephone Exchange is:

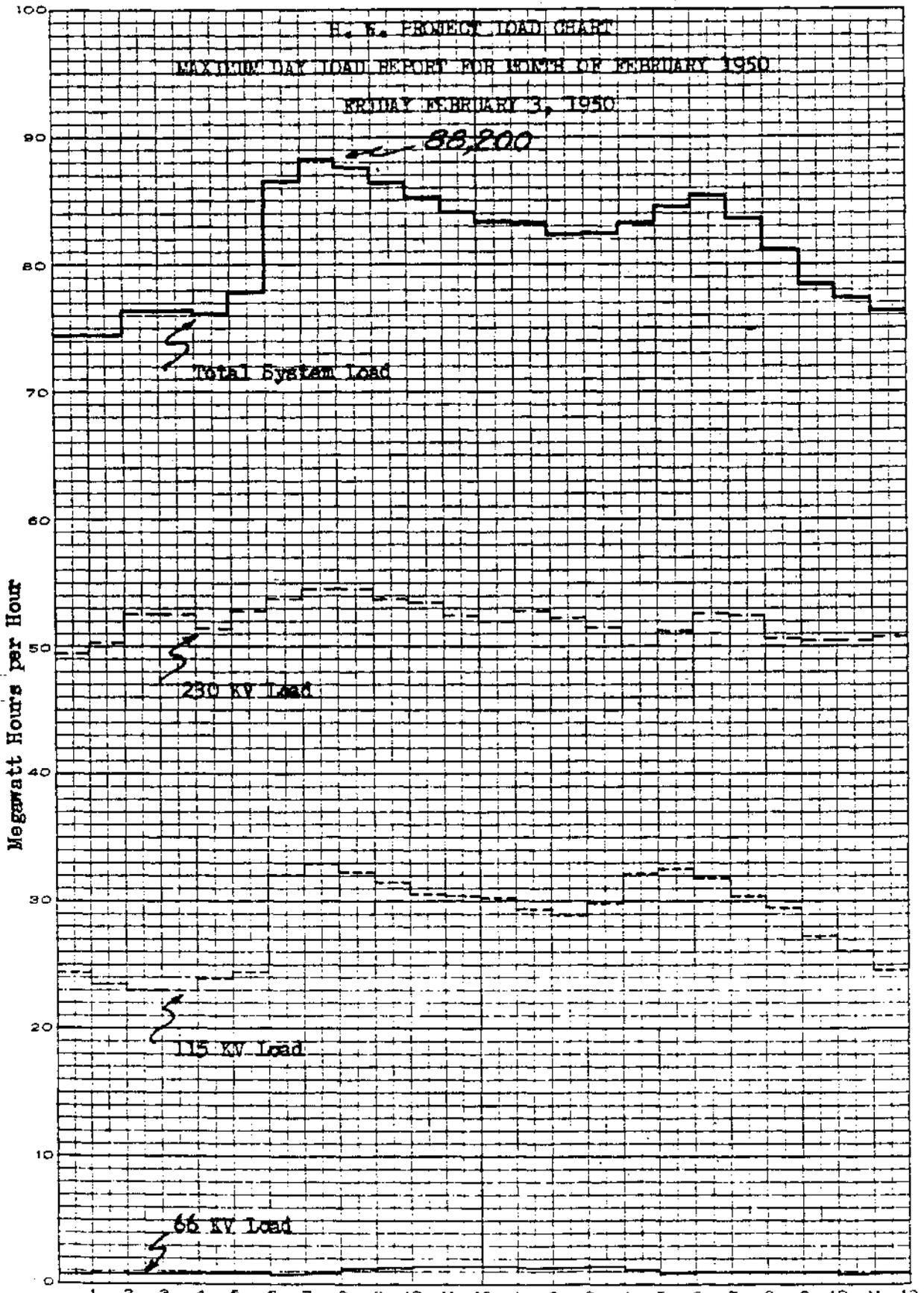
Lines in service	3077
Stations in service	4531
Vacant lines	923

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ONE DAY BY HOURS



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1966
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TRANSPORTATION DIVISION
MONTHLY REPORT
FEBRUARY 1950

Classification ~~Controlled~~ Changed to
By Authority of ~~PAFORD OPERATIONS~~
~~OFFICE~~ NON-TECHNICAL DOCUMENT RE-
VIEW BOARD. ~~H. J. [redacted]~~ Chairman

Date: 12-18-51

GENERAL

Severely cold weather accompanied by excessive snowfall handicapped most of the activities of the Division throughout the month and created a large volume of additional work. Considerable difficulty was experienced in the starting of automotive and related equipment; road and track maintenance crews were engaged in the removal of snow and providing drainage for the excessive runoff which followed; and the Area Service forces were engaged in the control and disposal of surplus water in 100-B, 100-D, 100-F, and 200 West Areas.

Transportation Division forces continued to keep Yakima River ice conditions under surveillance until after the channel became ice free and near normal on February 20. Blasting was performed February 6, 7, 15, 16 and 19 in the vicinity of the George Washington Way Highway Bridges and the Northern Pacific-Union Pacific Connection Railroad Bridge now under construction on Project G-185.

RAILROAD ACTIVITIES

Commercial inbound tonnage increased approximately 17% over January but is still far below normal. Coal receipts remained at a reduced rate as a result of the continued coal strike. Process service continued at a normal level with all movements being completed as scheduled. Cars handled totaled 1,433 compared with 1,223 in January and 2,168 in December.

Rail service to the Project was suspended February 16 because of water damage to a small bridge on the Milwaukee Railroad between Priest Rapids and Beverly Junction. Normal service was resumed the following day.

The Central Mix Plant was reactivated and carload shipments of cement are being delivered to the facility.

Major repairs to flat car 10-A-3614 have been completed.

Eighty-ton Diesel electric locomotive 39-3719 was removed from service on February 1 for major engine repairs.

Railroad track maintenance continued on a near normal basis throughout all five sections. Removed snow and ice from all switches and crossings and provided drainage for the excessive runoff which followed. Excavated and backfilled over pipe line on 272 Building track in 200 West Area where seepage under the track caused settlement. Placed 19 truck loads of ballast in the repair of settled track in 100-D and 100-H Areas.

1212369

Transportation Division

By Authority of [REDACTED]
OFFICE, NON-TECHNICAL DOCUMENTS
VIEW BOARD. [REDACTED] Chairman

gpc

AUTOMOTIVE ACTIVITIES

Date: 12-18-51

Area and Village Bus Systems transported a total of 184,007 passengers in February which is a decrease of 23,900 over January. This decrease represents a partial return to normal brought about by a moderation of weather plus a 28 day month which included a holiday.

In addition to the regular school booster busses, an additional 50 booster runs were required during the extremely cold weather at the beginning of the month.

Two K-7 International busses were reactivated and added to the fleet for 300 Area service.

Special shuttle bus service within the Pasco Warehousing Area was made available to prospective buyers at a public sale on February 27 and 28. This service was requested by the Atomic Energy Commission Excess and Disposal Department.

Completed removal and resetting of engine heat thermostats in the remainder of the GMC coaches in an effort to increase the heater output.

Painting of 8 of the 15 Village passenger busses has been completed by an outside contractor.

The Planning and Methods Section initiated purchase requisitions for 77 Sedans, 24 Sedan Delivery Trucks, 13 1/2-ton Panel Trucks, 7 Carryall-Suburban Trucks, and 1 Stand-Drive Delivery Truck; and prepared a summary of the Transportation Division Weed Control Program to accompany the A. & B. Request for the procurement of additional equipment.

LABOR ACTIVITIES

Crushed and stockpiled 940 cubic yards of 3/4" to 1/2" crushed rock and 624 cubic yards of 1/2" to 0" crushed rock.

Expended approximately 700 man-hours in maintaining Area roads which included sanding operations, removal of snow, and drainage. Delivered 550 tons of coal to the 101 Building.

Transportation Division Area forces were engaged in the control and disposal of surplus water from melting snow in 100-B, 100-D, 100-F and 200 West Areas. Dikes were constructed; drainage ditches were excavated and piping installed where required; pumps and tank trucks were employed in the disposal of water from the 108-B Building and other locations where drainage was not possible; scil and gravel was hauled for the backfilling of settled areas.

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Transportation Division

Transportation Division equipment and labor forces were furnished for Projects C-343, C-346, M-718, and Well Drilling Operations.

(Statistical information is attached to the file copies of this report)

Classification ~~Cancelled~~ or Changed to
RESTRICTED
By Authority of ~~KANFORD OPERATIONS~~ *JE*
OFFICE, NON-TECHNICAL DOCUMENT RE-
VIEW BOARD. ~~H. J. Newton~~, Chairman
Date: 12-18-57

DECLASSIFIED

PROJECT ENGINEERING DIVISIONS MID-MONTHLY STATUS REPORT

100 AREA PROJECTS

DATE: FEBRUARY 18, 1968

WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

ENG. REQ. NO.	DATE RECEIVED	BLOG OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS - PERCENT COMPLETE	PROJECT DATE	ROUTED FOR APPROVAL	APPROVAL REQUEST DATE	COMMITTEE APPROVED A/B	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	RELEASED TO FIELD	PHYSICAL COMP. & CLOSING NOTICE	FIELD WORK - PERCENT COMPLETE	REMARKS
1-7	108F		BIOLOGICAL LABORATORY	H-1	C-197	121,000		3-31-67	4-1	4-1	4-1	3-10	2-18	2-18			WORK PROGRESSING	
11-15	109I		EXPERIMENTAL ANIMAL FARM	H-1	C-198	35,700		3-31-67	3-11	4-1	4-1	4-28	5-3	5-5			COMPLETED	
5-29	109B		DISASSEMBLING OF EQUIPMENT IN THE GENERALIZING AND DE-AERATING PLANTS	POWER	C-172	48,000		1-11-67	2-11		2-31	6-19	6-8	10-23			REVISOR PROJECT IN PREPARATION CERTAIN WORK TO BE SUBCONTRACTED	
5-20	109C		EFFLUENT DISTURBANCE OUTLET (105 - 107 B & F)	P	C-221	151,000		1-12-67	1-12	1-18	1-26	1-26	10-11	10-11			MAINTAIN UNTIL FISCAL YEAR 1967	
6-14	105 D		MID-IRON SPECIFICITY	TECH.	C-200	17,400		6-5-66	6-5	6-9	6-18	10-8	10-11	10-11			WORK PROGRESSING	
6-29	100B		INSTALL STEEL PROCESS STEER 105-B - 107-B	P		150,000												PRESERT LINE BEING ORDERED FOR LEAS
7-26	100B.D.F		INCREASED SHELTERING - 100B INVAZED CANS	P	C-206	21,500		10-6-67	12-8	10-11	11-10	11-30	12-2	6-17			ORDER BEING PLACED FOR NEW DESIGN	
10-20	105		DEVELOPMENT OF CENTRIFUGAL SEPERATOR	P	1-211	18,500		5-18-67	5-18	5-27	5-27	7-19	7-22				DESIGNS PROGRESSING	
1-7	100B.D.F		REPLACEMENT FOR 2 WORKS IN 105 BUNS.	P	C-213	240,600		2-18-67	2-18	2-18	2-18	2-18	2-15	2-12	2-13			COMPLETED
1-7	100B		P-10 ALLOY PREPARATION FACILITIES	TECH.	C-209	702,000		4-1-67	4-1	4-23	4-23	5-10	5-16	5-26	5-31			COMPLETED
2-9	107B.C		IRON OXYDE CONTROL VALVES	POWER		40,000												WELL UP BY HIGHER PRIORITY WORK
2-27	108A		P-11 PROJECT	TECH.	C-208	328,000		5-23-67	5-23	5-20	6-1	6-28	7-1	7-12				WORK ON SCHEDULE FOR JULY 68
4-27	107B		P-12 PROJECT	TECH.	C-208	294,700		6-1-67	6-1	6-12	6-12	6-31	11-3	11-11				WORK PROGRESSING
5-27	107B		NOZZLE GALVANIZING AND REPLACEMENT	P	C-207	775,000		2-15-67	4-15	10-17	10-12	12-28	1-4	1-13				ALL MATERIAL ORDERED
6-1	108A		IMP INSTALLATION FOR INDIVIDUAL PILL TREAT ACCOUNTING	P	15-215	14,400		6-15-67	6-16	6-15	6-17	6-15	6-15					WORK VIRTUALLY COMPLETE IN 6 WEEK
6-1	107B		REPAIRS TO 107 BASIN (IMPERMEABLE PROCEED ONLY)	P	15-213	18,100		7-12-67	7-15	10-12	10-12	10-12	10-17					WORK TO BE SCHEDULED FOR WAGNER BEATING
7-21	108A		RESTRAINING CLAMPS - PILL SHELTERING	P	15-221	15,000		8-23-67	8-23	8-25	8-25	10-1	10-1	10-17				TWO AREAS COMPLETED - THIRD DEFERRED
10-21	108A		PILL CLEARANCE - INNER ROOM ROOM WELLS REPAIR	P	C-255	40,000		9-26-67	9-26	9-26	12-13	1-10	1-10	1-19				WORK BEING SCHEDULED
11-8	107B		HEALTH MONITORING AND STORAGE FACILITIES	TECH.		120,000												PROJECT IN PREPARATION
11-8	107B		DONORSHIP REPLACEMENT	P		100,000												WELL UP FOR HIGHER PRIORITY WORK
11-8	107B		COAL FILTERING FACILITIES	POWER		21,400												PARALLEL TO PREPARATION
11-8	107B		DEVELOPMENT OF FERTILIZER MONITORING CONTROL & DIS	P		10,000												WELL UP FOR HIGHER PRIORITY WORK
11-8	107B		AGRICULTURE BIOLOGY LABORATORY	H-1		150,000												DESIGNS IN PREPARATION
11-8	107B		P-13 PROJECT	TECH.		25,000												INSTALLATION PREPARATIONS PROGRESSING
11-8	107B		W-10 COAL DEVELOPMENT Laboratory	TECH.		87,000												URGENT WORK SCHEDULED FOR 1968
11-8	107B		P-10 ALLOY THROUGH	TECH.		100,000												DESIGNS PROGRESSING UNDER HIGH PRIORITY
																		DESIGNS PROGRESSING UNDER HIGH PRIORITY

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PROJECT ENGINEERING DIVISIONS MID-MONTHLY STATUS REPORT 200 AREA PROJECTS

WORK PROGRESS DURING PERIOD
 WORK PREVIOUSLY DONE

DATE THROUGH 11/19/52

ENG REQ NO	DATE RECEIVED	BLOS OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO	ESTIMATED COST	ENGINEERING STATUS - PERCENT COMPLETE		PROJECT DATE	ROUTED FOR APPROVAL	APPROVAL REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	RELEASED TO FIELD	PHYSICAL COMP & CLOSING NOTICE	FIELD WORK - PERCENT COMPLETE	REMARKS
							WORK PREVIOUSLY DONE	WORK PROGRESS DURING PERIOD											
19	12-21-50	200	BACKGROUND GEOLOGICAL & HYDROLOGICAL INVESTIGATION PROGRAM INCLUDING TEST WELLS & OTHER FACILITIES	W-1	C-326	95,000	100	100	1-20-50	1-20-50	2-1-50	2-1-50							FIELD PROJECTS AUTHORIZATION RELATING TO W-1 ASSIGNED TO W-1. RECEIVED PROJECT APPROVE FOR DESIGN DRAWING 1/15/50 DESIGNERS
20	12-22-50	221-10	EQUIPMENT FOR DISSOLVED OXYGEN SATURATION (\$137,000 ORIGINALLY AUTHORIZED)	S	C-337	150,000	100	100	4-13-49	4-13-49	5-6	5-6							PROJECT IN PROGRESS
21	1-12-51	221-10	SILVER NITRATE REACTOR FOR RADIO-100 LINE	S		(750,000)	100	100	1-20-50	1-20-50	2-1-50	2-1-50							BEING RE-EXAMINED
22	7-22-51	27110	INSTALLATION OF LABORATORY EGT. IN BLDG. 271 (1-B INFORMAL REQUEST)	W-1		130,000	100	100	10-12-50	10-12-50	10-11	10-11							DESIGNING REACTOR AT 3 DIVISION
23	7-22-51	234-5	DUCT LEVEL FLOOR COVERING AND SAFETY SHOWERS	S		(150,000)	100	100	4-13-49	4-13-49	5-6	5-6							DESIGNERS PROGRESSING
24	5-13-51	241-1A	EVAPORATION FACILITIES FOR FURNACE WASTE	S		1,000,000	100	100	1-20-50	1-20-50	2-1-50	2-1-50							WORK BEING SCHEDULED
25	7-17-51	271-10	CONVERT PARALLEL OPERATION FOR W-1 BLOS	S		(200,000)	100	100	10-12-50	10-12-50	10-11	10-11							DESIGNERS PROGRESSING
26	8-30-51	234-5	PAVING USED IN REAR OF BLDG. 234-5	S		(25,000)	100	100	10-12-50	10-12-50	10-11	10-11							PART II PROJECT AND REPORT SUBMITTED
27	7-19-51	271-10	W-1 SHOWERS - PRELIMINARY DESIGN AND MATERIALS COMPLETE PLANS AND SPECIFICATIONS PART 1	W-1	C-340	(150,000)	100	100	10-12-50	10-12-50	10-11	10-11							WORK BEING SCHEDULED
28	8-10-51	222-1	DESIGN AND INSTALLATION OF DOUBLE	W-1	C-341	10,750	100	100	10-12-50	10-12-50	10-11	10-11							DESIGNERS PROGRESSING
29	12-22-50	272-0	W-1 TO LABORATORY	W-1	W-1-11	9,700	100	100	10-26-49	10-26-49	11-22	11-25	12-7						DESIGNERS PROGRESSING
30	1-16-52	274-5	MISCELLANEOUS CONTAINERS	S		(21,000)	100	100	10-26-49	10-26-49	11-22	11-25	12-7						DESIGNERS PROGRESSING
31	2-19-52	241-10	ENLARGING 251 SUBSTATION AND ADDITIONAL 12-B BY FIELDS 200 E-W	W-1	C-342	1,500,000	100	100	10-26-49	10-26-49	11-22	11-25	12-7						COMBINED TOTAL OF AUTHORIZED SPENDING

1212373

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PROJECT ENGINEERING DIVISIONS MID-MONTHLY STATUS REPORT

300 AREA PROJECTS

WORK PROGRESS DURING PERIOD

WORK PREVIOUSLY DONE

DATE: 12-15-50

END REQ NO.	DATE RECEIVED	BLDG OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS - PERCENT COMPLETE	PROJECT DATE	ROUTED FOR APPROVAL	APPROVAL REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	RELEASED TO FIELD	PHYSICAL COMP. & CLOSING NOTICE	FIELD WORK - PERCENT COMPLETE	REMARKS
14	11-10-47		CONVERSION OF OFFICES TO LAB. & CONSTRUCTION OF BLDG. 3707-C	TECH. C-227	557,000		3-1-48	3-1			3-3	3-15	3-1	3-19				NONE RESUMED
160	8-12-50		EXPERIMENTAL METALLURGY LABORATORY - BUILDING 3730	TECH. C-287	140,000		11-5-48	11-5	11-7	11-7	11-9	12-2	12-5	3-7				WORK PROGRESSING
161	8-14-50		OPENSIDE MOUNTING - BLDG. 313-314	P. C-140	200,000		12-8-48	12-8	12-8	12-20	12-20	2-1	2-3	2-10				SCOPE OF PROJECT REDUCED TO INCLUDE ONLY ENGINEERING & DEVELOPMENT WORK AT PRESENT. PRELIMINARY DESIGN & CONSULTANT SERVICES UNDERWAY. REVISION PROJECT TO BE SUBMITTED.
162	2-9-51		MOUNTING HILL (300,000 AUTHORIZED 12-13 FOR ENGINEERING) (EST. TOTAL COST)	P. C-331	60,000		5-23-49	5-23	5-27	5-27	5-1	12-13	12-23	12-23				WORK PROGRESSING
163	12-10-50		WINE TUBE HOPE UP TO SIMULATE B, C, & F	TECH. C-134	24,000		5-17-49	5-17	5-16	5-17	6-1	7-13	7-15	8-2				DESIGNS BEING PREPARED FOR FURTHER DECISIONS ON WORK TO BE DONE
164	12-23-51		AUTOMATIC SCREW MACHINE INSTALLATION	P. C-180	180,000		12-18-48	12-18	12-10	12-19	12-31	1-3	1-6					WORK WILL BE PERIOD FURTHER DECISIONS REGARDING ADDITIONAL FUNDS
165	10-10-50		100 AREA WEDGE HOUSE REACTION (EXPERIMENTAL REQUEST)	MECH. C-331	14,500		3-18-49	3-18	3-22	3-22	3-20	3-1	3-8	2-3				DESIGNS BEING PREPARED FOR FURTHER DECISIONS ON WORK TO BE DONE
166	2-2-51		REHABILITATION, REMODELING & INCREASED VENTILATION - BLDG. 3721	TECH. C-331	227,000													PROJECT IN PREPARATION
167	7-21-51		SEGREGATION OF FLOWMETER SLUDGE	P. C-107	107,000													PROJECT IN PREPARATION
168	8-27-50		CULMINAR STORAGE DUMP	TECH. C-295	295,000													PROJECT IN PREPARATION
169	8-29-50		SOLVENT STORAGE FACILITIES - BLDG. 3706	TECH. C-300	300,000													READY FOR SUBCONTRACT
170	9-15-50		ADDITION TO BLDG. 3745	M.E. C-354	70,000		11-6-49	11-4	11-8	12-1	12-1	12-19	12-23					COMPLETED
171	8-25-50		WALKAL DRAINAGE EXTENSION	P. C-275	4,000		11-1-49	11-1	11-1	11-9				12-18	1-20			DESIGN IN PREPARATION
172	11-19-50		ADDITIONAL INSTRUMENT SHOP	INST. C-102	102,000													

1212374

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PROJECT ENGINEERING DIVISIONS MID-MONTHLY STATUS REPORT GENERAL PLANT PROJECTS

WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

DATE: MARCH 15, 1950

ENG. REC. NO.	DATE RECEIVED	9LDC. OR AREA	DESCRIPTION OF WORK	DIVISION RESPONSIBLE	PROJECT NO.	ESTIMATED COST	ENGINEERING STATUS - PERCENT COMPLETE	PROJECT DATE	ROUTED FOR APPROVAL	APPROVAL REQUEST DATE	APPROVED A & B COMMITTEE	ROUTED TO GOVERNMENT	DIRECTIVE DATE	AUTHORIZATION RECEIVED	PHYSICAL COMP. & B. CLOSING NOTICE	RELEASED TO FIELD	FIELD WORK - PERCENT COMPLETE	REMARKS
11-22		702	ADDITION TO BLDG. 702 - AUTOMATIC DIAL TELEPHONE EXCHANGE	ELECT. C-138	470,500	3-2-47	3-7	3-7	3-7	3-7	3-10	5-12	5-21	5-13			100% PROGRESSING	
4-21		700	ADDITIONAL TELEPHONE CABLES - RICHMOND	ELECT. C-144	71,000	3-2-47	3-21	3-21	3-21	3-21	3-21	5-5	5-11	5-13			100% PROGRESSING	
7-10		ALL	115 KV POWER LINE TO RICHMOND PLUS SUBSTATION FACILITIES AUTHORIZED	ELECT. C-177	1,174,000	7-10-47	7-17	7-17	7-17	7-17	7-21	8-14	8-21	8-21			100% COMPLETE	
8-25		ALL	INSTALLATION OF NEW SECURITY FENCES - ALL AREAS	SIENR. C-270	441,800	8-25-47	8-1	8-1	8-1	8-1	8-15	10-11	11-4	11-4			100% COMPLETE	
7-17		ALL	PLANT TELEPHONE PROJECT	ELECT. C-276	1,246,000	7-17-47	7-17	7-17	7-17	7-17	7-17	8-1	8-1	8-1			100% COMPLETE	
7-19		NAVYARD	ARSENAL SANITARY AND FIRE PROTECTION FACILITIES - PATROL FISSURE BANK	SIENR. C-360	54,000	7-19-47	7-19	7-19	7-19	7-19	7-19	8-1	8-1	8-1			100% COMPLETE	
10-13		ALL	WWT TREATMENT OF POWER LINE POLES	ELECT. C-372	190,000	10-13-47	10-13	10-13	10-13	10-13	10-13	10-13	10-13	10-13			100% COMPLETE	
2-25		1100	SURGICAL WING AIR CONDITIONING - HARVEY HOSPITAL (FORMER REQUEST)	MECH. C-357	16,000	2-25-47	2-25	2-25	2-25	2-25	2-25	2-25	2-25	2-25			100% COMPLETE	
3-17		1100	ADDITIONAL CAPACITY RICHMOND SEWAGE LIFT STATION	MECH. C-357	47,500	3-17-47	3-17	3-17	3-17	3-17	3-17	3-17	3-17	3-17			100% COMPLETE	
7-8		200	ADDITION TO MICROLOGIC BLDG. 822	MECH. C-357	71,000	7-8-47	7-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8			100% COMPLETE	
10-7		1100	BUY WATER PIPE LINE 744-B TO RADIO HOSPITAL (ORIGINAL REQUEST)	MECH. C-357	9,000	10-7-47	10-7	10-7	10-7	10-7	10-7	10-7	10-7	10-7			100% COMPLETE	
11-11		ALL	PERMANENT FENCING 730 BY AND DISTRIBUTION SUBSTATIONS	ELECT. C-372	1,070,000	11-11-47	11-25	11-25	11-25	11-25	11-25	11-25	11-25	11-25			100% COMPLETE	
11-11		500	TRANSFORMER OIL STORAGE FACILITIES	ELECT. C-372	10,000	11-11-47	11-25	11-25	11-25	11-25	11-25	11-25	11-25	11-25			100% COMPLETE	
11-11		1100	RELOCATION OF RICHMOND LINE CREW HEADQUARTERS	ELECT. C-372	30,000	11-11-47	11-25	11-25	11-25	11-25	11-25	11-25	11-25	11-25			100% COMPLETE	
5-16		1100	ADDITIONS TO RICHMOND ELECTRICAL DISTRIBUTION SYSTEM	ELECT. C-372	17,600	5-16-47	5-16	5-16	5-16	5-16	5-16	5-16	5-16	5-16			100% COMPLETE	
7-1		1100	ELECTRICAL WORK NECESSITATED BY RICHMOND INVENTORY CHECKS (ORIGINAL REQUEST)	ELECT. C-372	2,500	7-1-47	7-1	7-1	7-1	7-1	7-1	7-1	7-1	7-1			100% COMPLETE	
4-15		ALL	N. I. OPERATIONAL DIVISION SURVEY INSTRUMENTS	MECH. C-333	85,000	4-15-47	4-15	4-15	4-15	4-15	4-15	4-15	4-15	4-15			100% COMPLETE	
11-1		3000	CENTRAL STORES WAREHOUSE IN 3000 AREA	SIENR. C-333	1,417,000	11-1-47	11-1	11-1	11-1	11-1	11-1	11-1	11-1	11-1			100% COMPLETE	
1-13		700	EXPERIMENTAL INDUCTION HEATING FACILITIES BLDG. 712	MECH. C-333	1,417,000	1-13-47	1-13	1-13	1-13	1-13	1-13	1-13	1-13	1-13			100% COMPLETE	
2-16		1100	ELECTRICAL HEATING - WILSON OF RICHMOND	ELECT. C-372	1,000,000	2-16-47	2-16	2-16	2-16	2-16	2-16	2-16	2-16	2-16			100% COMPLETE	
1-17		800	TELEPHONE SERVICE TO TECH CENTER	MECH. C-372	18,000	1-17-47	1-17	1-17	1-17	1-17	1-17	1-17	1-17	1-17			100% COMPLETE	
1-11		800	ELECT. POWER SERVICE TO TECH CENTER	ELECT. C-372	10,000	1-11-47	1-11	1-11	1-11	1-11	1-11	1-11	1-11	1-11			100% COMPLETE	
11-11		ALL	SALESPERMAN AND RECEIPT OF TELEPHONE CABLE AND EQUIPMENT	ELECT. C-372	10,000	11-11-47	11-11	11-11	11-11	11-11	11-11	11-11	11-11	11-11			100% COMPLETE	
11-11		700	CATHODIC PROTECTION (ORIGINAL REQUEST)	ELECT. C-372	10,000	11-11-47	11-11	11-11	11-11	11-11	11-11	11-11	11-11	11-11			100% COMPLETE	
1-16		708	ADDITIONS AND ALTERATIONS-708 LABORATORY	MECH. C-372	100,000	1-16-47	1-16	1-16	1-16	1-16	1-16	1-16	1-16	1-16			100% COMPLETE	
12-22		ALL	MOBILE METEOROLOGICAL STATIONS	MECH. C-372	50,000	12-22-47	12-22	12-22	12-22	12-22	12-22	12-22	12-22	12-22			100% COMPLETE	

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PROJECT ENGINEERING DIVISIONS ENGINEERING DESIGN

100 AREA

DATE PREPARED BY: JCL 103

E.P. NO.	DATE RECD.	BUDG. & AREA	DESCRIPTION	% ENGINEERING COMPLETE	DWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESP.	ESTIMATED COMPLETION DATE
1001	9-1	100	"AS-BUILT" DWGS SINCE 9-1-46			WORK PROGRESSING	-	
1002	2-1	106	G.E.C. STUDY			EXTENDED STUDY BY STANDING COMMITTEE	TECH. & P	
1074	11-2	1158DF	DESIGN MOISTURE EXTRACTION EQUIPMENT FOR GAS SYSTEM			NOT STARTED	P	
1075	12-10	100B	STUDY AND RECOMMEND ON LONG RANGE WAREHOUSING - 100, 200, AND 300 AREAS			REPORT IN ROUGH DRAFT FORM	MFG.	3-1-50
1085	2-4	100F	STUDY PILE OPERATION WITH 100% CO ₂ ATMOSPHERE			DATE IN HANDS OF "P" DIVISION	P	4-1-50
1076	4-7	105	STUDY LUBRICATION OF PROCESS TUBES DURING CHARGING			CANCELLED	P	
117	10-13	108B	CAN OPENER IMPROVEMENTS			REPORT READY TO ISSUE	TECH.	2-20-50
1123	11-11	106F	TIE LINE - EFFLUENT VENT AND DOWNCOMER		1-30	DWGS ISSUED	P	
127	1-20	108B	P 10 SHIPPING TUBE NUMBERING			STUDY IN PROGRESS - LARGELY AN EQUIPMENT INVESTIGATION	TECH.	2-30-50
128	2-1-50	100H	DESIGN GRAPHITE MONITORING PUSH RODS			NOT STARTED	P	4-30-50
131	2-8-50	1056DF	PROPOSED ROD GUIDE SYSTEMS			NOT STARTED	P	4-30-50

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PROJECT ENGINEERING DIVISIONS ENGINEERING DESIGN

DATE FEBRUARY 15, 1950

200 AREA

WORK IN PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

NO.	DATE RECD	BLDG & AREA	DESCRIPTION	ENGINEERING COMPLETE	DWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIMATED COMPLETION DATE
2266	10-28	200E7	"AS-BUILT" DWGS. SINCE SEPT. 1, 1946	90		ONLY MOST URGENT CORRECTIONS ARE BEING MADE TO DRAWINGS AT PRESENT	--	12-31-50
2279	12-1	221TB	STUDY AND MAKE RECOMMENDATIONS FOR REMOTE CONTROL REGASKETING FACILITIES	100		POSTPONED BY "S" DIV. 2-7-50	S	1-30-50
2515	9-6	221 224	PREPARE AN ENGR. REPORT ON THE USE OF A NEW TYPE STEAM JET	100		RECOMMENDATION REPORT COMPLETE	S	3-15-50
2517	1-16	234	CHANGE PRINTS FOR RECOVERY HOOD & VAPORATORS	100		DRAWINGS BEING CHANGED	S	

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PROJECT ENGINEERING DIVISIONS ENGINEERING DESIGN

DATE FEBRUARY 15, 1950

300 AREA

WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

NO	DATE RECD	BLOG & AREA	DESCRIPTION	% ENGINEERING COMPLETE	DWGS. OR REPORT ISSUED DATE	REMARKS	DIV. RESPON.	ESTIMATED COMPLETION DATE
3002	9-1	300	"AS-BUILT" DRAWINGS SINCE 9-1-46	0000000000		ONLY MOST URGENT CORRECTIONS ARE TO BE MADE TO DRAWINGS AT PRESENT		
3070	10-28	3706	STUDY VENTILATION REQUIREMENTS TO PROVIDE 40% HUMIDITY AND 2 MINUTE AIR CHANGE			WORK POSTPONED UNTIL ALL HOODS HAVE BEEN INSTALLED	TECH.	3-1-50
3082	7-8	3706	DESIGN AND PREPARE COST ESTIMATE FOR EXHAUST SYSTEM FOR GRAPHITE MACHINING IN ROOM 41A			DESIGNS PROGRESSING	TECH.	3-1-50
3085	9-27	RIVERLAND	STUDY HIGH WATER TANK - RIVERLAND			RECOMMENDATIONS BEING PREPARED	POWER	2-20-50
3087	1-25-50	314	STUDY BACKFIRING STOKES VACUUM PUMP			RECOMMENDATIONS BEING PREPARED	P	4-15-50

1212378

PROJECT ENGINEERING DIVISIONS ENGINEERING DESIGN

DATE FEBRUARY 15, 1950

PLANT GENERAL

WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

E. R. NO.	DATE RECD.	BLDG. & AREA	DESCRIPTION	% ENGINEERING COMPLETE	DWGS. OR ISSUED DATE	REMARKS	DIV. RESPON.	ESTIMATED COMPLETION DATE
337	4-8	ALL	SURVEY FOR MAINTENANCE OF ALL RAILROADS INSIDE RESTRICTED AREAS			WORK PROGRESSING AS REQUIRED	TRAN	4-1-50
341R	6-14	200W	RAILROADS-REDOX PLANT CIVIL DESIGNS AND SPECIFICATIONS			WORK PROGRESSING	D&C	3-1-50
353	9-7	ALL	ARCHITECTURAL STANDARDS			WORK PROGRESSING AS REQUIRED	S	
356	1-16	292T	SURVEY OF 292-T STACK		1-20	COMPLETED		
367	1-23	1100	DESIGNS FOR CONVERSION OF DORMITORY TO OFFICE SPACE		1-23	COMPLETED	PURCH	
1001L	5-26	100	AS-BUILTS - 100 AREAS - LAYOUT ONLY			WORK PROGRESSING AS REQUIRED	-	
1034S	6-29	100BUD	DISMANTLING OF DEACERATING PLANTS ARCH. AND MECH. DESIGNS AND SPECIFICATIONS ONLY			WORK PROGRESSING	POWER	3-1-50
266-L	1-13	200JEW	AS-BUILTS (LAYOUT WORK ONLY)			WORK PROGRESSING AS REQUIRED	-	6-1-50
3002L	12-7	300	AS-BUILTS - 300 AREA - LAYOUT ONLY			WORK PROGRESSING		
3062A	5-17	314	ROLLING MILL - ARCH. DESIGN ONLY FOR PROJECT C-339			NOT STARTED	P	
405L	1-12	ALL	ELECTRICAL AS BUILTS (LAYOUT WORK ONLY)			AS REQUIRED		
406L	8-1	1100	ADDITIONS TO VILLAGE DIST. - LAYOUT ONLY FOR PROJECT C-341			WORK PROGRESSING AS REQUIRED	ELECT	
365D	12-2	-	PROCESS CHARTS - 300 AREA (FOR IND. ENGINEERING GROUP)			WORK PROGRESSING AS REQUIRED	P	
1375D	1-20	1100	DRAFTING FOR TRANSPORTATION CONSOLIDATION STUDY			AS REQUIRED	TRAN.	5-1-50

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PROJECT ENGINEERING DIVISIONS INDUSTRIAL ENGINEERING

FEBRUARY 15, 1950

DATE

ALL AREAS

WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

R. NO.	DATE RECD.	BLDG. AREA	DESCRIPTION	% ENGINEERING COMPLETE	DWGS. OR REPORTS ISSUED DATE	REMARKS	DIV. RESPON.	ESTIMATED COMPLETION DATE
363	3-21	ALL	PROJECT ENGINEERING DIV. PERSONNEL ANALYSIS			WORK DEFERRED	P.E.D.	3-21-50
365	4-15	300	METHODS STUDIES - "P" DIVISION SLUG CANNING LINE ANALYSIS CHIP BRIQUETTING STUDY ECON. ANALYSIS - CANNING METHODS SCREW MACHINE ECONOMICS MELT PLANT OPERATION ANALYSIS OPTIMUM BILLET DIMENSION DETERMINATION ROTARY SWAGER STUDY CANNED SLUG REJECT STUDY MECHANICAL REDUCED CUT-OFF TOOL WIDTH CANNED SLUG REJECT STUDY ECONOMICS	1-15 1-21	1-15 1-21	WORK COMPLETED WORK DEFERRED WORK COMPLETED WORK PROGRESSING WORK PROGRESSING WORK PROGRESSING WORK PROGRESSING WORK PROGRESSING WORK COMPLETED	P P P P	6-1-50 1-21-50 4-15-50
370	11-1	100	INDUSTRIAL ENGINEERING "P" DIVISION CHARGE-DISCHARGE METHODS 105 BLDG. MECHANIZATION EVALUATION OF SUGGESTIONS FOR P.C. GROUP NOZZLE REPLACEMENT STUDY	1-27	1-27	WORK PROGRESSING WORK DEFERRED WORK PROGRESSING WORK DEFERRED	P P	4-1-50 12-1-50
371	11-15	ALL	PROJECT MANPOWER SURVEY			WORK PROGRESSING	MGMT.	3-31-50
373	12-6	700	OFFICE SPACE REQUIREMENTS			WORK PROGRESSING	MGMT.	2-17-50
562S	12-8	700	STORES WAREHOUSE ANALYSIS			WORK PROGRESSING	STORES	2-24-50
714	5-4	ALL	ELECTRICAL POWER CONSERVATION			WORK PROGRESSING	ELECT.	2-17-50
374	12-20	200	INDUSTRIAL ENGINEERING "S" DIVISION CREW REQUIREMENTS 221 AND 224 BLDGS.			AWAITING PERSONNEL ASSIGNMENT	S	12-20-50
375	12-22	1100	TRANSPORTATION DIVISION CONSOLIDATION			WORK PROGRESSING	TRANS.	4-1-50
376	12-16	1100	ELECTRIC POWER METERING			WORK PROGRESSING	ELECT.	3-3-50
377	2-1	108B	P-10-A STUDIES			WORK INITIATED	TECH.	3-1-50
378	2-5	202S	LUBRICATION SPECIFICATIONS			WORK DEFERRED	S S S S	8-1-50
379	2-3	234-5	"			WORK DEFERRED		8-1-50
380	2-3	221T	"			WORK DEFERRED		8-1-50
381	2-3	221U	"			WORK DEFERRED		8-1-50

1212381

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PROJECT ENGINEERING DIVISIONS COST ESTIMATING WORK SCHEDULE WORK RECEIVED AND COMPLETED ALL AREAS

PERIOD ENDING FEBRUARY 15, 1952

WORK PROGRESS DURING PERIOD
WORK PREVIOUSLY DONE

NO.	DATE RECD.	BLDG. OR AREA	DESCRIPTION	% ESTIMATING COMPLETE	SCHED. COMP. DATE	EST. COST	REMARKS	DIV. RESPON.	ACTUAL OR EST. COMP. DATE
32	1-12	10UF	BIOLOGY LAB. PART III	100	2-1	58,000		H.I.	1-26-50
46	12-15	200E	HOT SEMI WORKS	100	1-25	290,000		T	1-27-50
62A	1-11	700 100 200	STORES WHSE. RENOVATION	100			WAITING INFORMATION	MFG.	
1077	1-12	108B	P-10A EXT.		1-16	25,000		T	1-17-50
1116	1-4	111B	MONITOR AND STORAGE FAC.		1-20	13,000		T	1-31-50
1119	1-4	ALL	COAL METERING EQUIPT.		1-22	31,400		POWER	1-19-50
129	2-10	111B	REV. COLD DEV. LAB.		2-15	93,000	EST. TO F.A. BOWMAN	T	2-14-50
469	12-27	300 200W 241TX	19 TEST WELLS AND WELL SAMPLER		1-20	95,000		H.I.	
491	2-1		EVAPORATION FACILITIES		2-16			S	
086	12-22	300	CORROSION HEAT FURNACE		1-20	16,000		T	1-18-50
513	1-27	234	AUX. HOOD ENCLOSURE		2-7	49,000	EST. TO E.M. JOHNSTON	S	2-7-50
504	1-13	271TB	LAB. FURNITURE		1-20	13,600		T	1-20-50
381	1-13	222T	ACID SUPPLY TANKS AND PIPING		1-20	9,400		T	1-20-50
502	1-16	234-5	DRY BOX HOOD VENTILATION		1-25	13,500		S	1-27-50
55	1-16	100F	AQUATIC LAB.		1-20	28,000		H.I.	1-20-50
42	1-24	622	ADD. TO METEOROLOGICAL BLDG.		2-6	23,100		H.I.	2-6-50
48	1-24	3706	CYLINDER STORAGE		2-6	12,900		T	2-8-50
49	1-24	3706	SOLVENT STORAGE		2-6	64,400		T	2-8-50
28	1-24	300	INSTRUMENT SHOP		2-16			I	
348	2-7	700	WATER SOFTENING FACILITIES KADLAC HOSPITAL		2-7	10,600		MED.	2-7-50

1212382

February 17, 1950

RECAP - ALL AREAS

PROJECT COSTS

	100	200	300	General	Total
Authorized	\$3,328,600	\$1,715,450	\$1,016,600	\$4,323,700	\$10,384,350
Awaiting Approval	0	212,000		111,500	323,500
Work in Preparation	1,480,800	1,059,600	3,147,000	2,366,400	8,053,800
TOTALS	\$4,809,400	\$2,987,050	\$4,163,600	\$ 6,801,600	\$18,761,650
Last Month's Totals	\$5,599,500	\$1,538,450	\$4,795,400	\$ 6,763,300	\$18,696,650

PROJECTS COMPLETED DURING MONTH:

C-184	Experimental Animal Farm	\$335,900
C-323	Replacement VSR & Guides 105 Bldgs.	280,600
C-334	P-10 Alloy Preparation Facilities	242,000
C-331	Rehabilitation, Remodeling & Increased Ventilation - Bldg. 321	227,000
M-725	Burial Ground Extension	4,800
M-717	Electrical Work Necessitated by Richland Permanent Levees	8,600

DECLASSIFIED

1212363

TECHNICAL DIVISIONS

February 1950

DECLASSIFIEDSUMMARY

3/10/50

Pile Technology Division

During February the Pile Technology Division became so firmly committed to work on an expanded P-10 program that it was necessary to suspend almost all technical work in support of design of new plutonium producing piles.

The atmosphere of the B Pile was converted to a nominal 100% CO₂ during the month.

Fracture tests on the two slugs which caused difficulty during discharge in January showed conclusively that both slugs had been incompletely transformed into the beta phase during canning.

Sample tubes containing Group V material were discharged satisfactorily at 556 MD/ton.

Initial results indicate that the accumulation of abnormally large amounts of pressure drop film (by excluding test slugs from the pile purge) has no major effect on slug corrosion rates.

Graphite samples which had been irradiated for 2-1/2 years at low temperature recovered 75% of their original expansion during a two month irradiation at 335°C.

Metallurgical studies show that solution heat treatment of extruded P-10-A alloy for 4 hours at 580°C eliminates much of the second phase; this second phase is believed to be a large contributing factor in the initial gas content of unirradiated slugs.

Separations Technology Division

Production testing in the Separations Plants of slower rates of phosphoric acid addition, the use of single-distilled hydrofluoric acid, and metathesis routine has resulted in favorable gains in yields, essential materials economy, or time cycle advantages. A number of non-routine process operations, occurring inadvertently, were corrected by reworking operations resulting in near-standard final waste losses. Corrections of equipment misalignment in plutonium metal fabrication Pressing operations and careful attention to operational performance have produced a continuous series of satisfactory metal shapes. Improved Coating performance in these operations permitted the attainment of February production commitments, and the over-all promise of attaining the March commitments is extremely good.

1212384

In Redox and Metal Waste Recovery process development, forty-one additional solvent extraction column runs were made during the past month, all on TBP process studies. Extensive improvements in TBP packed column performance were separately obtained by the addition of sodium fluosilicate to the feed and by pulsing the solvent feed. A wide range of TBP process conditions have been investigated, establishing considerable flexibility for tailoring flow sheet conditions. Pulse columns of 3 and 8 inches in diameter are being readied for nearly immediate operation and a 16-inch column is being installed for operation within about one month. Several of the submerged pumps on life-testing are continuing to give satisfactory results.

In the research laboratory, continued scouting of methods of decontaminating Bldgs. 234-5 and 224 crib wastes is showing increasing promise. TBP process studies have included work on improved performance of carbonate-washed TBP, comparison of diluents for TBP, settling rates of sludge from metal waste slurries, and continuous recovery of nitric acid. Redox studies have been continued in hexone-nitric acid reaction chemistry, continuous cross-over oxidation, and ruthenium tetroxide distillation. Near-quantitative recovery of plutonium from 234-5 slag and crucibles has been obtained in laboratory tests of KOH fusion, acid dissolution, and alkaline precipitation, successively. Additional data have also been obtained on coupling of full-level Redox solutions to the 234 Bldg. process.

In the 234-5 process development laboratory, alternate modifications of the crucible recovery studies described above are also under study. Exploratory studies of skull dissolving agents other than hydriodic acid have uncovered promising results with 16 M nitric acid-0.1 M hydrofluoric acid mixtures. A filter-reactor has been fabricated for testing of direct transfer of filtered plutonium precipitates to hydrofluorination.

The T Plant sand filter efficiencies have remained lower than usual since the special short-cooled dissolving run and possibilities of monitor piping are being investigated. Filtration studies with a special paper produced by the A. D. Little Co. have revealed that this material is apparently as good as CWS Type-6 paper.

Technical Services Division

Effective February 1, an Equipment Design Unit was established in the Engineering Section of the Technical Services Division. This new unit, which is housed in Bldg. 101, is responsible for all laboratory equipment design activities in the Technical Divisions (except for that of Rala, which is continuing in the Analytical Section).

Good progress was made on the Rala Laboratory design, and plans were made for constructing a mock-up analytical line in Bldg. 101. Development of the Remote Control Transport System continued, and effective technical liaison was established with the Lionel Corporation. Arrangements were completed whereby the Instrument Division will study the feasibility of the proposed electronic controls for this RCT System.

Documents HW-16080, "SF Materials Accountability Procedure," and HW-16082, "SF Material Accounting Procedures," were issued during the month. The former details the system of control of such materials in use in the Analytical

1212385

Technical Divisions



Section (both Control and Research), while the latter defines the various samples received by the laboratories, presents the checking limits within which acceptable laboratory results must fall, and gives references to laboratory manuals where method descriptions are detailed.

The first specimen of high density lead glass was received from the Penberthy Instrument Company of Spokane, Wash. This special glass, which is reported to have shielding properties about equivalent to that of steel on a thickness basis, shows excellent promise for use in direct viewing windows of laboratory caves and cubicles.

Architectural, foundation and structural steel drawings for the Redox Analytical and Plant Assistance Laboratory, Building 222-S, were approved and released to the field construction forces. Preparation for temporary construction buildings and site clearing was in progress.

With the recent transfer of the Engineering Files from the Design and Construction Divisions to the Project Engineering Division, arrangements were made to return the handling of all classified material formerly issued and controlled by these Engineering Files to the 700 Area Classified Files.

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FILE TECHNOLOGY DIVISIONFEBRUARY, 1950VISITORS AND BUSINESS TRIPS

G. M. Adamson, Oak Ridge National Laboratory, was here February 13 and 14, 1950 for inspection and consultation on the special request program.

L. W. Fromm, Argonne National Laboratory, Chicago, Ill., arrived February 13 for consultation on ANL-140. He will remain indefinitely as a resident representative on all ANL requests.

G. A. Anderson, O. W. Childs, M. D. Fitzsimmons, F. L. Kleimola, and R. A. Stella, Argonne National Laboratory, arrived February 20, 1950 for a visit of about one month for consultation on ANL 140.

R. A. Koehler and D. H. Marquis, General Engineering and Consulting Laboratory, Schenectady, N. Y. were here February 21 - 24 for P-10 consultation.

Z. D. Sheldon, Knolls Atomic Power Laboratory, Schenectady, N. Y., was here February 20 - 24 for P-10 consultation.

J. P. Howe, Knolls Atomic Power Laboratory, was here February 23 and 24 for metallurgical consultation.

Pile Technology Division

R. K. Winkleblack, Argonne National Laboratory, Chicago, Ill., was here February 23 and 24 to discuss the special request program.

William Blinder, Knolls Atomic Power Laboratory, Schenectady, N. Y., was here February 24 through March 3, 1950, to make experimental measurements on irradiated material.

Business trips of the Pile Technology Division personnel during February were as follows:

P. F. Gast visited Knolls Atomic Power Laboratory February 6, 7, and 9 for discussion of the P-10 studies and visited the General Engineering and Consulting Laboratory February 9 for consultation on 234-5. He visited the A. E. C. in Washington, D. C. February 8 for discussion of the P-10 program.

A. A. Johnson and M. W. Carbon visited Knolls Atomic Power Laboratory February 5 - 10 for discussions on P-10 studies.

E. P. Warekois visited Knolls Atomic Power Laboratory February 6 - 10 for graphite consultation.

W. T. Kattner visited Simonds Saw & Steel Co., Lockport, N. Y. February 13 - 15 for observation of special fabrication.

F. E. Kruesi visited Oak Ridge National Laboratory February 13 - 17 for consultation on P-11 problems.

ORGANIZATION AND PERSONNEL

	<u>January</u>	<u>February</u>
Physics Section	40	40
Engineering Section	31	35
Metallurgy Section	36	32
P-10 Project	13	17
Administrative	3	3
	<u>123</u>	<u>127</u>

During the month an engineer was hired for the Engineering Section and a laboratory assistant was hired for the Physics Section.

Three laboratory assistants transferred from the Technical Services Division, one for the P-10 project and two for the Engineering Section.

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Pile Technology Division

Two draftsmen and a designer transferred from the Metallurgy Section to the Technical Services Division. A metallurgist and two technical workers transferred from the Metallurgy Section to the F-10 project.

An engineer in the Physics Section transferred to P-10 and an engineer in P-10 transferred to the Engineering Section to work on the extraction development program.

A chemist was loaned for half-time from Separations Technology Division to the Engineering Section and an engineer from Project Engineering was loaned full-time to the Engineering Section for extraction development work, but they are not included in the personnel figures.

A technical graduate in the Metallurgy Section was transferred as a chemist from the weekly to monthly payroll.

PHYSICS

Conversion of a Pile to P-10 Production

Authorization was received from the Atomic Energy Commission to proceed with plans for loading 200 kilos of U-235 in the form of uranium aluminum alloy slugs into E Pile. Plutonium production equivalent to 400 central tubes would be sacrificed. This program has been labeled the H-10 project.

The actual loading will be made in the central portion of 600 tubes so as to use the enriched uranium more efficiently. Feed and fuel slugs will be loaded alternately and the ends of each tube will be loaded with natural uranium.

The burnup of U-235 will be 45 kilos annually. The present vertical rods will provide adequate safety control. Operating control will not be a problem.

Experiments performed in the Test Pile at month-end showed good agreement between predicted and observed reactivity effects and neutron flux distributions, thus increasing confidence in the methods used in making the calculations.

Critical Mass of Plutonium Solutions

The proposed operating procedures and the experimental facilities for this project were reviewed by a group of consultants to the Atomic Energy Commission. In general the committee believed that the facilities were satisfactory from a nuclear safety standpoint, but recommended some changes. With one exception these changes will be made without difficulty. The procurement of a stainless steel, solenoid operated, diaphragm type valve may introduce some delay in carrying out the remaining recommendation.

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Pile Technology Division

Tests were made during the month to determine the workability of the plutonium solution handling facilities. It was found that flow rates were unsatisfactory and that some reworking of the piping system would be necessary. This work will cause a delay of about 10 days in the completion date and it is expected that the solenoid valve can be installed during this work.

Coating of surfaces subject to contamination has been carried out with G. E. cocoon coating. Results have been highly satisfactory.

A preliminary acceptance inspection was made of the experimental site on February 27. With the exception of the piping mentioned above, required changes were minor in nature.

Exponential Experiments

Work on this project is being postponed since the personnel will be needed in experimental work for the increased P-10 production program. Standardization of foils and counters for use on the H-10 project is in progress. An exponential pile with the present Hanford lattice will be constructed to be available for neutron flux distribution measurements for the H-10 project. It will also be available for use when work on the P-12 project is resumed.

Pile Physics Work

Increase of the atmosphere of the B Pile to a nominal 100% carbon dioxide produced a reactivity gain in agreement with expectation. Reactivity coefficient tests performed at H Pile, D Pile, and F Pile also gave results in line with previous trends. The graphite coefficient at the H Pile is increasing rapidly, as was observed at the other piles when they were young.

Special Request Program

One hundred and ninety-three P-10-A slugs and four other special request pieces were discharged from the piles during the month, while one hundred thirty-six P-10-A slugs and six other special requests were being charged. There are seven additional special requests on hand awaiting irradiation.

A revision to the receptacle slug design which permits safer and easier opening of this type sample has been proposed, and is being tested. Preliminary results are satisfactory, so that prospective users are being advised of the probable change.

Of ten rubber samples exposed in the E test hole facility at F Pile, a boron-free, natural rubber sample showed the least irradiation effect. A natural rubber sample containing traces of boron survived an exposure of 30% of the boron free sample before breaking, while synthetic and silicone rubber samples broke after much shorter exposures.

File Technology Division

Installation of auxiliary equipment at the E hole facility has doubled the allowable working time there and thus enabled more efficient use of available manpower.

Miscellaneous

A test hole arrangement allowing a beam of neutrons to emerge for neutron spectrometer work has been sketched and transmitted to Project Engineering.

Detailed calculations are in progress on the amounts of U236, Np237, Pu238, Am241, and Cm242 in irradiated metal to answer various requests from the A.E.C.

Two theoretical reports were issued: "Effect of Temperature on the Reactivity Absorbed by Xenon", (EW-16047); and "Slowing Down Density in an Infinite Square Lattice of Line Sources", (EW-15933).

Reactivity

At month end the reactivity status of the four operating piles was as follows:

	<u>B Pile</u>	<u>D Pile</u>	<u>F Pile</u>	<u>H Pile</u>
In rods	82 ih	80 ih	71 ih	137 ih
In xenon poison	458	481	547	590
In Special Requests				
P-10	423	392	267	120
Materials Testing Program	15	13	2	0
Other	25	47	13	0
In lead-cadmium columns	0	0	0	107
In bismuth	113	109	116	0
In plant assistance	0	29	0	5
In dummy columns	0	4	27	0
In over all coefficient	<u>-240</u>	<u>-240</u>	<u>-260</u>	<u>-99</u>
Total cold, clean reactivity	661	915	783	910

The B Pile gained 14 inhours, the D Pile 10 inhours, and the H Pile 69 inhours. The large loss at F Pile is partly due to uncertainty in the actual effectiveness of poisoning material discharged during the month. The F Pile had an apparent loss of 69 inhours, of which 30 inhours were caused by large discharges of irradiated metal from the central zone, while the remainder is attributed to uncertainty in the actual effectiveness of poisoning material discharged during the month.

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ENGINEERINGSlug Inspection

Measurements obtained from two tubes of metal discharged at 556 MD/ton under Production Test No. 105-270-P showed only a slight increase in deformations found in similar metal discharged at lower exposures.

DR Van Stone Flange Inspection

Inspections made over a five month period following the DR pile-hydrostatic tests have shown that the corrosion which occurred in the stagnant water immediately following the tests was arrested by removal of all water from the tubes.

Vertical Thimble Inspection

A total of 44 VSR thimbles was inspected concurrent with pressure testing. The five thimbles that appeared to be in the poorest condition were found to leak. The corrosion in six other thimbles appeared to be serious enough to warrant replacement in the near future.

Pile Control

Testing is in progress to determine the effectiveness of an alternate third safety device in which neutron absorbing balls are added through a fluted step plug. The method permits the use of the present safety rods with minor alterations but requires substitution of a fluted step plug for the present step plug and rod guide. The tests and preliminary calculations indicate that this 3 X control will reach about 75% of maximum holding power only two seconds after the system is actuated. Demonstration tests have been completed showing that an industrial type vacuum cleaner can remove the control balls from a 40 foot deep thimble hole.

Effect of Pressure Drop Film on Corrosion - P. T. No. 105-249-P

Corrosion rates of three tubes discharged under this test showed that the buildup of an abnormally high pressure drop film did not increase the slug corrosion rates appreciably. One tube in the 240 orifice zone was not purged for 7 months and had a maximum pressure drop increase of 40 psi; another tube in the 140 zone had a maximum pressure drop increase of 90 psi. These studies are continuing.

Graphite Expansion

The H Pile has been operated for one month at 330 MW. All data indicate that this power level is safe and that higher levels are probably feasible. The heat output from the maximum tube will limit the pile power output to about 365 MW unless a more uniform heat distribution can be maintained. The Top

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Biological Shield has warped or settled down in the center a maximum of 0.2 inches since startup. The Far Side Biological Shield has moved out about 0.1 inches at the center and 0.15 inches at the middle of the upper edge. No movements of the End Shields have been detected. The carbon monoxide in the pile gas has increased slowly to 6 1/2 %. The average maximum graphite temperature at 330 MW is about 245° C.

The carbon dioxide in the B Pile atmosphere was increased to a nominal 100 % during the month. The maximum graphite temperature is about 300° C at 10 % carbon dioxide. The increase in graphite temperature caused by changing from 50 % to 100 % carbon dioxide is somewhat more than had been estimated.

Routine motion measurements at the B, D, and F Piles indicate a continued slight contraction at the center of the piles and an expansion of the cooler graphite near the edges. Work on improved instruments for measuring graphite expansion was continued during the month.

Project C-338, which consists of installation of "B, D, and F" graphite in the nine tube mock-up, was completed on February 24. This mock-up is now available for studies of the effects of expansion on the pile structure and for development of corrective measures.

Graphite Monitoring

The total stored energy of graphite mined from the bore of a process tube block was 618 cal/gm after an exposure of 3300 MD/CT. This value is equivalent to that which might be obtained from a 2900 MD/CT test hole exposure, although the flux in the bore position is greater by a factor of about 1.5. The relatively low rate of energy storage is apparently the result of a higher temperature in the bore position compared to the test hole position in which samples are exposed at 30° C.

A previous value of 560 cal/gm was reported for a bore sample after 2580 MD/CT. Although the graphite in the bore has continued to accumulate stored energy with increasing exposure, these data and previous data from mined samples indicate that the rate of damage has been reduced considerably during the last 1 1/2 years, probably as a result of the higher temperatures maintained in the bore position by the use of carbon dioxide in the pile gas. The 618 cal/gm value was obtained from D Pile after more than one year of operation at 40 % carbon dioxide while the 560 cal/gm value was obtained when F Pile had just been raised to 40 % carbon dioxide.

Length and thermal conductivity measurements on graphite previously damaged at low temperatures (< 30° C) and irradiated in the pile at a nominal 335° C show that nuclear annealing occurs at an accelerated rate compared to that previously determined at about 250° C. During a 140 MD/CT exposure (about 60 calendar days) about 75 % of the original physical expansion was recovered for samples having previous low temperature exposures as long as 2 1/2 years. The large temperature dependence of the rate of nuclear annealing is of prime importance in both practical and theoretical studies.

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DR Water Plant

An investigation of the advisability of increasing the capacity of the DR water plant in anticipation of converting this pile to P-10 production indicated that a saving of 60 Kg of fuel material required in the pile would probably result if the water plant capacity were increased from 36,000 to 42,000 gpm.

Heat Transfer

Continuation of pressure drop-flow rate measurements of water being boiled while flowing through a small diameter tube have resulted in two tube burnouts when attempts were made to find a point at which a fixed pressure could be applied to the tube and a flow rate maintained while boiling occurred.

Materials Testing Program

Part of the Navy fuel element test rig (ANL-140) has been received and is being installed. An operating crew is being trained. Details are presented in Document No. HW-17109.

P-10 Project

A total of 175 slugs was extracted on three operating lines. The fourth line was used for experimental process development work. One technical man and two operators have been transferred to P-10-A to speed slug fabrication for the H-10 program.

Design work on the "cold" experimental facilities to be installed in the second floor of 100-B building is essentially complete. At month's end the removal of chemical addition equipment was underway.

Knolls Atomic Power Laboratory has initiated experimental work to investigate new extraction processes. The General Engineering and Consulting Laboratory is proceeding with work on design of a metal extraction line.

P-10-A Slug Manufacture

Fifteen acceptable billets were cast during the month, and 664 slugs were machined and delivered to 300 Area P Division for welding.

Only one billet tested for alloy composition fell out of the specified range of 3.2 to 3.7 %.

P-10 extraction and slug preparation are scheduled for 6 day per week operation starting in March, 1950. Additional shifts for billet casting will be added to the operation as soon as personnel can be obtained and trained.

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METALLURGY**DECLASSIFIED**Uranium Billet Casting

A group of 164 uranium billets (previously reported erroneously as 231) for Production Test No. 314-59-M and cast at Hanford under furnace pressures ranging from 25 to 3000 microns was rolled at Lockport on February 14 and 15 under the observation of a representative of the Metallurgy Section. No increase in pyrophoric tendencies appeared to result from casting in the higher pressure ranges. However, it was observed that billets made from unpickled chips showed a much greater tendency to tear during rolling than those made from pickled chips. The effect of furnace pressure on over-all yield remains to be evaluated.

The practice of casting 500 lb. charges in the uranium melt plant, instituted about the middle of January, has not resulted in the expected yield improvement. This has been attributed partially to failure to increase the heating time of the charge in proportion to the increased mass. Heating time has now been raised from 2 hours to 2 hours and 20 minutes, but results have not yet been evaluated. Present indications are that the greatest improvement in yield may be expected to result from improved removal of oxide from the scrap comprising the furnace charge. It has been observed that pickled chips, as normally delivered to the furnaces for charging, are often badly tarnished. Efforts are being directed toward the improvement of pickle rinsing techniques, and toward expediting the transit of pickled chips to the furnaces in order to reduce oxide formation.

The 10 tons of uranium rods rolled at Lockport in January, using a lead preheating bath, gave a machining yield of 78.7 %, which is about 5 % above the average for gas furnace preheated material.

Continued efforts to develop a reliable method for quantitatively determining the uranium content of air filter sample papers have been unsuccessful. The evaluation of the various filter media for the crucible burnout station filter mockup depends upon the successful development of such a method.

Uranium Rolling

Battelle has completed all of the experimental rolling work requested by Hanford and is preparing a report giving the final data. Included in this report will be data on the effect of speed on the deformation strength of uranium at 300 and 600° C, temperature rise in rolling at 300 and 600° C, and deformation strengths obtained in rolling uranium at 250° C. A summary of these data was obtained by phone. In the first 5 to 7 passes, the temperature rise per pass was 6 to 12° C at 600° C and 24 to 53° C at 300° C. The deformation strength of cast metal rolled at 250° C is 12 to 21 per cent higher than at 300° C. Increasing the rolling speed from 65 to 125 feet per minute had little effect on the deformation strength at 600° C, and an increase from 65 to 85 feet per minute had little effect on the deformation strength at 300° C.

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Document No. HW-15959 was issued during the month, presenting additional data received from Battelle since Document No. HW-15750 was issued.

Some of the X-ray data concerned with the variation in orientation around the periphery of production rod have been inconsistent and a check is being made to determine the cause of this inconsistency. In relation to the method used for determining orientation, the possibility of using an aluminum diffraction line rather than the (111) uranium line as the standard for intensity calculations is being investigated.

Uranium Slug Canning

Additional slugs canned by the quad-dip process using agitation conditions similar to those used in the tests reported in January were examined for completeness of transformation. This program involved dipping approximately 100 slugs under ten different time-temperature conditions. These data together with the January data fix the time-temperature boundary for transformation in the temperature range Additional data are still needed to fix the boundary above for the present agitation conditions; however, the boundary above is known approximately from previous data in which slightly different agitation conditions were used.

The design of devices to insure that all slugs undergoing processing shall be subjected to the specified canning conditions is essentially complete.

A temperature survey taken in an idle bronze pot operating at showed a 13° higher temperature in the 2-1/2 inch sludge layer at the bottom than in the liquid metal above, while the thermocouple placed against the bottom of the crucible indicated a temperature 22° higher than the bath. The liquid bronze appeared to be of fairly uniform temperature, although the flux layer on top was 112° C colder than the molten bronze.

Sludge samples obtained from treatment of chip recovery waste solutions with calcium chloride are being analyzed for comparison with samples previously obtained from calcium nitrate treatment. The latter treatment has with one exception, furnished sludge meeting Hanford Works and Mallinckrodt process specifications.

Dilatometry

In the nominal 0.1 and 1.0 atomic per cent chromium alloys, a break in the dilatometric curves indicating a possible phase transformation was noted at 428-436° C on heating the "as rolled" samples. The normal alpha to beta transformation was present at 660° C. Except for the possible additional transformation, the chromium alloys, similar to most of the other alloys, had a less than random alpha coefficient on cooling from the beta transformation.

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Runs were made on longitudinal and transverse alpha rolled, cycled gamma extruded, cycled chill cast, and several other alloy specimens, but the curves have not been analyzed.

Radio-Metallurgy

On February 7 and 8 two class 4 and two class 5 alpha rolled, triple dipped uranium slugs were safely fractured in the storage basin of the 105-F building. The fractured surfaces of the class 4 and 5 material that had been canned in July and October 1948, respectively, and had caused discharging difficulty, were examined and compared with normally discharged slugs from the same tubes and from the same classification.

Observation of the fractured surfaces of the bowed pieces showed that they were incompletely transformed into the beta phase. The transformation had penetrated about 1/2 inch on one side only of the class 5 slug. This maximum depth of penetration decreased uniformly on both sides of the maximum to less than 1/16 inch in slightly more than one-half the circumference. The fractured surface of the class 4 slug showed that the transformation had penetrated about 1/4 inch similarly to the class 5 slug except that this penetration was of approximately the same depth for greater than one-half the circumference before starting to decrease to less than 1/16 inch penetration. It was estimated that about 80 % of the circumference indicated some penetration. In both observations it was noted that the concave side of the bow occurred on the side that had the maximum depth of phase transformation.

Observation of the fractured surfaces of the normally discharged slugs of the same categories revealed them to be completely transformed.

In fracturing these pieces it was noted that the irradiated pieces fractured with less deflection than the unirradiated slugs. This effect had no definite measure since it was related to the number of strokes of the hydraulic jack that was necessary to cause the fracture, however, it does appear to substantiate the previously observed increase in hardness due to irradiation.

The fractured surfaces of irradiated slugs were photographed at approximately twelve feet using the telephoto lens. The image obtained by this method was too small to show the partially transformed areas. These fractures were re-photographed using the viewer in the viewing pit. The pictures obtained by this method show lack of detail but definitely record the transformed and untransformed areas. A lack of good focus (inherent in this method) and/or vibration of the camera during the exposure (30 seconds to 2 minutes) are responsible for the lack of definition.

The equipment used in making these fractures was removed from the 105-F basin and installed in the 111-B building where it is being modified to permit shielded operation in air. Comparisons with other types of metal will be made as soon as possible.

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The proposed use of leaded glass as an optical means for making shielded observations is being substantiated as practical by the Penberthy Instrument Company of Spokane, Washington. Leaded glasses with densities up to 6.3 g/cc have been received that have excellent transparency through 1-1/2 inch and the properties of strain relieving, thermal expansion and gamma ray attenuation are similar to steel. It is claimed that plug size (10-1/2" x 6-1/4" D) leaded glass can be cast as one unit and if so, the optical problem in cell design will be greatly simplified.

P-10 Alloys

Considerable time was spent in developing a satisfactory metallographic technique for P-10-A alloy specimens. Electrolytic polishing and etching was attempted and gave good results insofar as grain delineation was concerned; however, this method was of doubtful value for studying second phase and inclusions. Solution heat treatment of the "as extruded" P-10-A alloy for 4 hours at 580° C eliminated much of the second phase, but some of the large particles ranging up to 25-30 microns in size remained even after a 24 hour heat treatment. X-ray diffraction data confirmed the presence of a second phase in the "as extruded" alloy. This phase was found to have a diamond cubic structure rather than a body-centered cubic structure as reported in the literature.

Plans have been made to install a gas analysis line and a vacuum annealing furnace for use in the P-10-A alloy development work.

A four-inch long cast R-52 alloy slug containing 5.2 per cent natural uranium in aluminum was examined for soundness and distribution of the second phase. The grain size as observed in a macro-etched longitudinal section was large, but the metal was sound except for a small amount of pinhole porosity. Chemical analyses indicated that the alloy concentration did not vary along the axis of the slug. Metallographically, the second phase was observed to be present as lamella in a eutectic-like structure around and within the aluminum grains.

To explore the possibilities of using the 300 Area frost-test equipment in determining the bond quality of R-52 type canned slugs, seven dummy 2S aluminum slugs were canned with intentional effort to produce voids and unwet areas in the bond. Considerable difficulty was experienced in producing typical unbonded areas in the aluminum slugs. Only one of the slugs appears to have a typical unbonded area.

A brush with Ta-W bristles has been designed to replace the steel wool heretofore used in promoting wetting of R-52 slugs. If successful, this device may eliminate one canning operator. Preliminary studies indicate that the Ta-W alloy is quite resistant to attack by molten Al-Si and that it maintains its elasticity at canning bath temperature better than any material heretofore investigated.

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Corrosion

The special stellite test specimens which included stellite Nos. 1, 6, 6-2A, 12, and 21, welded to austenitic stainless steel, were exposed to Redox streams IAS, IAF, and IIAF in dynamic tests and to IAX in static tests. After a three week exposure period no significant corrosion effects were detected. The tests were run at room temperatures. Several of these test specimens were then exposed at boiling temperatures to IAF, IAS, and 60 % HNO₃. All types showed varying degrees of tarnishing in the IAF and IAS tests but appeared to resist corrosion. All showed considerable corrosion in the 60 % HNO₃ test.

The Pyle National Company phenolic jackets were tested in nitric acid, IAX, and Hexone atmospheres for seven days and found to be acceptable for service currently anticipated.

The corrosion testing of non-irradiated uranium in 100-B process water, Stoddard solvent, and Calol environments was begun in support of the Radio-Metallurgy program.

Miscellaneous

Following an unsuccessful attempt on February 17 to gamma extrude some 1-1/2", 2", and 3" uranium rods from standard sized billets, it was recommended that the extrusion die orifices be lapped smooth and brightly burnished with graphite powder, and that the dies be preheated with a torch immediately prior to beginning the extrusion. This procedure was followed in a second extrusion attempt on February 24, with generally good results. Ten rods of each of the three diameters were successfully extruded with rough surfaces being produced in only a few cases.

The following pieces were processed and/or disposed of under the Special Request program:

- 529 six-inch pieces myrnalloy (ORNL-106)
- 1 piece UCRL-117
- 5 pieces ANL-147
- 120 pieces R-13-6
- 51 pieces R-52 type experimental slugs
- 3 pieces UCRL-118
- 6 pieces ORNL-126
- 2 pieces ORNL-127

After 3200 hours, the creep rate for the 2S specimen loaded to 60 psi at 450° C, was 0.000004 per cent per hour and its total deformation was 0.304 per cent. Four more tests required to determine design curves at 400 and 450° C are in progress.

Pile Technology Division

The new steel cabinet for storage of SF material held by the Research and Development Group of the Metallurgy Section was set up and the proposed piece accounting system will be put into effect as soon as the rearrangement of the material and change-over of the records can be completed.

It is estimated that Building 3730 is now 81 per cent complete. Except for some electrical wiring and piping, no work was done on the building during the past month. Sheet metal work required for the exhaust equipment has been held up by higher priority jobs.

INVENTIONS

All Pile Technology Division personnel engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

Signed

W. K. Woods

W. K. Woods
Division Head

WK Woods:bb

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SEPARATIONS TECHNOLOGY DIVISIONFEBRUARY, 1950
MONTHLY REPORTVISITORS AND BUSINESS TRIPS

C. V. Ellison and T. C. Runion of the Oak Ridge National Laboratory visited this site on February 15 and 16 for discussions on the Metal Recovery Program.

A. Turkevich of the Argonne National Laboratory visited here on February 16 and 17 for Krypton 85 discussions.

J. Marsden, Knolls Atomic Power Lab., visited the Hanford Works from Feb. 27 through March 3 for Redox and Metal Recovery Program meetings.

G. T. Seaborg of the Radiation Laboratory, University of Calif., visited this site on February 28 and March 1 for discussions of the separations program.

B. W. Farnes and R. W. Martig of Farnes & Martig, Inc., Portland, Oregon, visited this site for inspection of the Fischer & Porter pumps.

J. B. Work visited the Los Alamos Scientific Laboratory from February 8 through 10 for 234-5 consultations.

ORGANIZATION AND PERSONNEL

Personnel totals in the Separations Technology Division are as follows:

	<u>January</u>	<u>February</u>
Administration	2	2
Special Assignment	2	2
Process Section	24	26
Development Section	90	91
Research Section	<u>35</u>	<u>32</u>
	153	153

Process Section: One Steno-Typist C returned from a leave of absence and one Steno-Typist D was transferred from the Employee and Community Relations Division.

Development Section: One Chemical Engineer and one Chemical Trainee returned from their leaves of absence, and another Chemical Trainee was granted a leave of absence due to illness.

Research Section: A Chemist, a Chemical Engineer, and a Draftsman were transferred to the Technical Services Division. Two Technical Graduates were transferred to the monthly roll as Chemists.

200 AFAS PLANT ASSISTANCE

Canyon Buildings

Study of slow phosphoric acid addition during the second cycle by-product precipitation has been continued. Although losses at B Plant continue to be somewhat erratic, data at both plants indicate that losses with the phosphoric acid added at two pounds per minute may be significantly lower than those with the addition at five pounds per minute.

Tests at B Plant indicated that the caustic coating waste contained approximately 0.1% of the product in an average run while the acid flush following contained 0.3 to 0.4% of an average run.

The first cycle product precipitation waste assay of Run B-10-02-B-4 was 91% of 6-3MR. Records indicated that ammonium silicofluoride had possibly been added instead of bismuth nitrate for the precipitation. Reworking the waste solution resulted in an effluent assay of 4%. This was reworked a second time with a total loss of 0.41%. The run following through the section, Run B-10-02-B-6, resulted in a waste assay of 0.7%. This was reworked to 0.31% and discarded.

The extraction waste assay of Run B-10-02-D-21 was 10% of 6-3MR. It was indicated that this may have been the result of an improper skimmer setting during cake solution. Routine reworking reduced the loss to 1.25%.

Concentration Buildings

Erratic metathesis losses at both plants prevented final evaluation of Production Test 224-T-13, aimed at decreasing the run time cycle. A return to standard conditions, however, resulted in essentially no change in performance. At month end, losses were sufficiently stable at B Plant to allow a return to Production Test conditions.

Approximately 63% of Run B-10-01-D-24 was inadvertently skimmed from the metathesis centrifuge into the catch tank during the cake dissolution of a run at B Plant. The product was recovered with a total metathesis loss of 0.35% for the run. Approximately 47% of the original run was recycled back to the Concentration Building when the recovered product was processed in the Isolation Building. The original portion of the run resulted in an amount of recycle which was comparable to recent averages.

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EW-17056

Separations Technology Division

Nitric acid flushes of the bismuth phosphate by-product precipitator tanks at B and T Plants lowered the background activity 50% in both cases. Losses of 0.14% and 0.09% of a standard run occurred at B and T Plants, respectively, during the flushes.

The oxidation period of the lanthanum fluoride by-product precipitation rework was decreased to 30 minutes from 60 minutes. No significant change in losses has occurred.

Penn Salt single-distilled hydrofluoric acid of improved specifications has been tested at T Plant under Production Test 224-T-12. No significant difference in plant performance was noted comparing results of runs using this acid with those of runs using a blend of 22% double-distilled acid and 78% Harshaw Specification 102 single-distilled acid.

Hydrofluoric acid was inadvertently added to the lanthanum fluoride by-product precipitator tank prior to the oxidation of Run T-10-02-F-15 at T Plant. This resulted in a waste assay of 2.4%. Reworking resulted in a total loss of approximately 0.4%.

Isolation Building

Filter aid, accumulated from cell filter clean-outs, is being processed for product recovery. Processing has not yet been completed.

The second cycle product peroxide precipitate of Run T-10-01-F-36 was inadvertently washed with 60% nitric acid instead of 6% nitric acid following the first of three standard washings. Since the precipitate was dissolved, the run was processed to AT with a resultant purity of 95%. The run was sent through a third peroxide cycle without sulfate addition, resulting in a purity of 99.6%. Approximately 5% of the run was recycled to the Concentration Building from the additional purification cycle.

The dip tube in the still, S-1, of Cell 4, used to transfer runs to AT, was found to be corroded and was replaced following Run B-10-01-D-25.

Purification and Fabrication Building

Attempts to correlate oxalate weights (after drying at 250°C) and oxide weights in the Dry Chemistry process have been made. The correlation is poor. The theoretical weight ratio of $\text{PuO}_2/\text{Pu}_2(\text{C}_2\text{O}_4)_3$ is 0.7304. The ratios obtained experimentally on 8 batches were between 0.5005 and 0.6034. A poor correlation between the oxalate weight (dried at 130°C) and the oxide weight was also reported for January. Attempts to establish oxalate weights for process control and accountability purposes will be discontinued.

The base on which the press can rests during Pressing was leveled early in February. Pieces pressed prior to this leveling were out of level with respect to the top of the die by as much as 0.012 inches. The maximum variation after leveling has been 0.005 inches. Dimensions for the new die cavity have been recommended. The die diameter is to be

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The c/q summation for light element impurities reported during the month has averaged 0.35.

The Coating operation improved during the month. Care in cleaning pieces to correct dimensions prior to coating plus better coating results have resulted in encouraging production results at month's end.

REDOX AND METAL WASTE RECOVERY DEVELOPMENT

Solvent Extraction Studies

Continuing with the development of the TBP Metal Waste Recovery process, a total of 41 solvent extraction studies were completed during February, using a 3-inch diameter column packed with 1/2-inch Raschig rings and an 8-inch diameter column packed with 1/2-inch and 1-inch Raschig rings. New information from these RA Simple Extraction Column and RC Column runs is summarized below:

1. Studies made using a 3-inch glass column packed with 21 feet of 1/2-inch stainless steel Raschig rings as a simple RA extraction section have resulted in the following information:
 - a. At TBP-HW #3 Flow Sheet conditions (nominal 6 M nitrate ion salting strength), the use of 0.004 M sodium fluosilicate in the RAFS was even more beneficial to uranium extraction than addition of 0.02 to 0.05 M ferrous sulfamate reported last month. Whereas ferrous sulfamate resulted in a four-fold reduction in uranium waste loss, the sodium fluosilicate reduced the waste loss by approximately ten-fold and did not affect the complete flooding capacity significantly (2200 ± 200 gal./hr.)(sq.ft.), sum of both phases).
 - b. These beneficial effects of ferrous sulfamate and sodium fluosilicate on uranium extraction at 6 M nitrate ion concentration were not realized with a low-acid flow sheet (nominal 3.6 M nitrate ion concentration), uranium waste losses being approximately 3% with or without additives present (i.e., waste losses 10- to 100-fold higher than for TBP-HW #3 Flow Sheet using 6 M nitrate ion salting strength).
 - c. Pulsing the RA packed column significantly improved extraction performance at low-acid flow sheet conditions (nominal 3.6 M nitrate ion, 1/2-inch Raschig rings, pulsing frequency 50 cycles per minute, pulsing amplitude 1/2-inch movement in the column). Uranium waste losses were reduced from approximately 3% without pulsing to 0.3% or lower with pulsing, corresponding H.T.U. values being reduced from approximately 4 feet to 2.5 feet. The flooding capacity with pulsing was greater than 2500 gal./hr.)(sq.ft.), sum of both phases, compared to approximately 2300 without pulsing.
 - d. Since essentially all TBP solvent extraction studies made to date by the Development Section have been with simulated total waste (sludge plus supernate), one 3-inch RA Column run was made with simulated supernate feed, and two more runs were made with two widely different simulated sludge feeds (RAFS containing 0.2 M and 0.05 M phosphate ion concentrations). Performance of both sludge runs was normal with uranium waste losses of less than 0.1%. Since the uranium waste loss for the supernate run was 8%, this run will be repeated with slightly altered flow sheet conditions.

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- e. A uranium waste loss of 0.1% resulted from one 3-inch RA run made with 10 vol. % TBP in the RAX stream (instead of the previous 12.5 or 15 vol %), with 0.02 M ferrous sulfamate present, and with the RAX flow (relative to RAF = 1.0) increased from 2.0 (the #3 Flow Sheet value) to 2.5 in order to maintain the TBP at the feed plate approximately 66% saturated with uranium. Satisfactory uranium transfer in the RA extraction section has now been demonstrated over a range from 10 to 15 vol. % TBP in the organic phase, indicating considerable flexibility for tailoring flow sheet conditions to fit specific requirements.
2. Using the above 3-inch glass column packed with 21 feet of 1/2-inch stainless steel Raschig rings as an RC Column resulted in the following new information:
- a. In contrast to the beneficial effect of pulsing the packed RA extraction section, pulsing the packed RC Column (50 cycles per minute, 1/2-inch amplitude) was neither significantly helpful nor harmful to uranium transfer but decreased the flooding capacity from approximately 1300 gal./((hr.)(sq.ft.)) without pulsing to 850 at 0.5-inch amplitude and 950 at 0.3-inch amplitude. These scouting runs were limited in scope, however, and other pulsing conditions might be found to be beneficial.
- b. The effect on uranium transfer of adding nitric acid to the RCX stream was investigated over a range from zero M to 0.3 M nitric acid. At 0.2 M and 0.3 M nitric acid in the RCX, uranium waste losses were approximately 5- and 50-fold higher, respectively, than with no nitric acid added. Over the range from zero to 0.1 M nitric acid in the RCX stream no highly significant effect was noted, although a slight benefit (1.5- to 2-fold decrease in waste loss) was noted at 0.01 M nitric acid compared to no nitric acid in the RCX.
- c. For TBP-HW #3 Flow Sheet conditions (12.5 vol. % TBP, 0.8 vol. ratio RCX/RCF, no pulsing) the effect of volume velocity on extraction performance has been well established by seven H.E.T.S. runs and two flooding runs. With a complete flooding capacity for 1/2-inch Raschig rings of approximately 1300 gal./((hr.)(sq.ft.)), a minimum H.T.U. of 2.3 feet (H.E.T.S. = 7.0 ft.) was observed at 840 gal./((hr.)(sq.ft.)) or approximately 65% of flooding. The uranium waste loss varied from 0.15% at 300 gal./((hr.)(sq.ft.)) down to 0.01% at 840 gal./((hr.)(sq.ft.)) and then increased again to 0.2% at 1100 gal./((hr.)(sq.ft.)).
- d. Two RC studies using 10 vol. % TBP in the organic phase indicated essentially the same extraction performance as for comparable runs using 12.5 vol. % TBP (0.1% waste loss or less).
3. RA and RC Column studies using 18.4 feet of 1/2-inch stainless steel Raschig rings in an 8.42-inch column were completed, and additional studies in this column using 18.4 feet of 1-inch stainless steel Raschig rings were initiated. The following new information has resulted from these runs:
- a. Operating with feed uranium concentrations approximately one-fourth of normal TBP flow sheet values for one RA-type run and one RC-type run resulted in H.T.U. values in line with previous runs at flow sheet uranium concentrations (approximately 2.8 and 5-ft. H.T.U.'s for 1/2-inch rings operating, respectively, at RA and RC conditions).

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b. The anomalous solvent extraction performance of 1/2-inch rings in 8.42-inch diameter RA and RC Columns (reported last month and attributed to changes in "wetting" of the packing by the two phases) was not observed in one new RA run and one new RC run using 1-inch rings. Performance of the 1-inch packing was in line with similar runs reported previously.

4. Based on H.T.U.'s from solvent extraction studies made to date, scale-up factors for height of packing (at TBP-HW #3 Flow Sheet conditions) on going from a 3-inch diameter column packed with 1/2-inch stainless steel Raschig rings to an 8.42-inch diameter column packed with 1-inch stainless steel Raschig rings are approximately 0 to 20% for the RA extraction section, and 50% for the RC Column.

In addition to the above solvent extraction studies, Scale-Up equipment was used during February to dry by distillation 11,600 gal. of water-saturated hexone (containing 13 g. H₂O/l.) to an average water content of 0.15 g./l., attaining a 96 vol. % recovery of hexone. It was desired to remove this hexone from Scale-Up tanks into black iron drums for storage, and reduction of the water content to 0.5 g./l. or less was considered essential to minimize corrosion of the black iron drums. An H.T.U. ("over-all liquid-film" basis) of 1.5 ft. ± 0.5 ft. was determined for the 6.7 ft. height of 1-inch by 1-inch ceramic Raschig rings in a 16-inch diameter column used for the hexone-water distillation.

Scale-Up equipment was also used to separate Shell "Stoddard Solvent" petroleum cleaning solvent from TBP by batch steam distillation, during which the % TBP in the boiler was increased from 15 vol. % up to approximately 85 vol. %.

Construction and Maintenance

The official copy of the close-out of Project C-331, with the exceptions mentioned last month, was received during the month. It was specified that all work on (and costs for) exceptions must be completed in ninety days from January 31, 1950. No field work has yet begun on these exceptions.

The pierced plates for the 3-inch and 8-inch pulse columns finally arrived and the necessary shop work for fabrication of the plate cartridges was completed. All piping revisions, pulsing mechanisms and other auxiliaries for both columns have been completed and readied for operation.

Van Stone flanged sections of precision-bored 16-inch pipe to be used for the 16-inch column, either packed or pulsed, have been received from the vendor. The fabrication job was excellent and diameter tolerances are being checked. An enlarged top to complete this column is currently being fabricated in the 300 Area shops. It is anticipated that the 16-inch column can be readied for packed column TBP studies within a month.

Plans have been completed for the installation of the necessary samplers and orifices in the dissolver vent line to permit dissolver off-gas studies for the Stack Gas Development Group.

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Revisions to Scale-Up tank farm equipment to permit hexone drying and distillation of Stoddard Solvent from TBP were completed and the equipment used for these purposes during the month. Necessary preparations were also completed for removal of the contents of W-14 Tank to the 200-W Area waste disposal cribs.

Maintenance during the month was mainly limited to repair of damage caused by freezing weather. One coil failure due to leakage in the Scale-Up ACF heat exchanger was corrected. Demonstration Unit pumps and control equipment gave satisfactory performance during the month, although replacement of the Holtzer Cabot motors in the Fischer & Porter controller-recorders is continuing as fast as new Brown motors can be obtained and altered for this purpose.

New work on equipment, of a minor nature, included (1) fabrication and installation of a wide-range controlling recording rotameter from parts of both Fischer & Porter and Schutte & Koerting instruments, (2) fabrication and installation of special graphitar bearings in a Fisher Scientific rotary vane pump, and (3) painting solvent-treatment room floors with Saran paint for test purposes.

Operations

A one-cut dissolver run was made during the month. Use of B-1 for concentration and re-use of Demonstration Unit RAW and RCU solutions was satisfactory throughout the month. Preparations for removal of W-14 contents to 200-W Area were completed but transfer was held up due to use of the tank trailer for Scale-Up work.

Performance of Demonstration Unit solvent extraction equipment was highly satisfactory during the month. Sixteen RA and nineteen RC runs were completed in the 3-inch packed column during the month. During five of these runs, the pulsing mechanism for the pulse column was used satisfactorily to pulse the organic stream to the packed column. This was done while awaiting arrival of the pierced plates for the pulse column. Although no outstanding difficulties occurred during operation, two cases of sluggish interface control were noted due to low N_2 pressure on the bubblers. Two pumps failed (one due to gland leakage, one due to a burned-out motor) but caused no difficulty, because installed spares were immediately put on line. Two instances of instrument failure required manual control (these instruments were still using the undesirable Holtzer-Cabot motors) and manual control was required on the pulsed runs because the pulse caused "hunting" of the Hammel-Dahl valve via the rotameter.

Rate control, aside from above-mentioned instrument difficulties, was very good. One instance of erratic flow rate control was noted on an extremely low rate run at the bottom range of the control instruments.

Scale-Up column operation during the month was at a low rate because of difficulties in the tank farm from the sub-zero weather and also because of time devoted to miscellaneous operations such as drying and removal of hexone from the system, distillation of diluent from TBP, and make-up of fresh solutions, both aqueous and organic.

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Three RA and Three RC runs were completed in the 8-inch column, two of each with 1/2-inch rings and one of each with 1-inch rings. Considerable difficulty was experienced with instrument control and material balances because of water vapor in the inert gas bubbler and instrument lines condensing in the lines due to the extreme cold. The leak in the ACF heat exchanger resulted in some loss of process solution on one run. During the early portion of one run a vigorous reaction in the column was noted, and was traced to CO_2 evolution resulting from some carbonate wash emulsion remaining in the organic phase after a carbonate wash of the solvent. It has been noted with the Stoddard Solvent diluent that phase separation after washing of solvent with aqueous solutions is extremely slow.

Aside from column operation, approximately 11,000 gallons of hexone were dried, barrelled out, and stored for future use, and 460 gallons of TBP were recovered from a Stoddard Solvent-TBP mixture, to be used with Shell Deodorized Base solvent for future runs. An 8000-gallon tank car of Shell Deodorized Base was received and the solvent transferred to the tank farm via the Scale-U waste tank trailer.

Equipment Development

Submerged Pump No. 2 (G.E. & C.I. turbine pump driven through a two-foot vertical shaft supported on carbon-filled fluorothene bearings) has completed 72 days of operation in 1.8 M $\text{Al}(\text{NO}_3)_3$ solution at 3450 rev./min., discharge pressure 40 lbs./sq.in., and flow rate of 1.35 gal./min. The shut-off pressure has remained unchanged over the last 30-day period at 54 lbs./sq.in.ga. Operation has been steady and uneventful.

Submerged Pump No. 3 (Roth No. 147 turbine pump suspended from a 10-foot torque tube containing two process fluid-lubricated graphitar bearings) has been in continuous operation for 87 days in 1.47 M $\text{Al}(\text{NO}_3)_3$ solution at 1750 rev./min. and a discharge pressure of 86 lbs./sq.in.ga. The discharge rate has averaged 3.5 gal./min., including 0.5 gal./min. recirculated to the bearings. The previous month's report (January) indicated a flow rate of 2.7 gal./min. Because of the rapid decrease in capacity with increase in head and the difficulty in maintaining identical discharge pressures at all times, a single value for Rate vs. Head is not regarded as a satisfactory index of performance. The shut-off head appears to be a better criterion. This diminished from 97 to 95 lbs./sq.in.ga. over the last 30-day period. Bearing wear has been insignificant, as found by flow to bearings versus pressure drop

Roth D-62, prototype turbine pump (10-foot vertical drive shaft supported on process fluid-lubricated graphite-filled fluorothene bearings with a water-flooded double Duroseal vapor seal) for the Redox Production Plant operated for 28 days in 1.8 M $\text{Al}(\text{NO}_3)_3$ solution at 1750 rev./min., and a flow rate of 15 gal./min. at 60 lbs./sq.in.ga. discharge pressure. The shut-off head remained constant at 250 feet (140 lbs./sq.in.ga.). The seal consumed an average of 210 ml. or 0.057 gal./day of water over the 28-day period, and over the last 12-day period consumed an average of 60 ml. or 0.016 gal./day. The 2 H.P. motor has been replaced with a 5 H.P. motor (the 2 H.P. unit was drawing 167% of its rated amperage under the test conditions indicated above).

Peerless Double Volute, which is also a prototype turbine pump for the Redox Production Plant, is essentially two turbine pumps operating in parallel. Each element employs 180° of the peripheral channel. The pump was dismantled for examination of the middle bearing which was inadvertently operated dry by the manufacturer while on test. It was found that some scoring had occurred, but the clearance appeared satisfactory and testing will proceed on schedule.

Peerless 4"-LA, a four-stage centrifugal pump, completed 130 days of life-testing in 1.5 M $\text{Al}(\text{NO}_3)_3$ solution. This was followed by 259 "on-off" cycles in the same test solution, which had no adverse effect upon the boron carbide seals or sleeve bearings, but did cause imminent failure of the seal collar anchor pins. These were replaced by heavier pins (1/8" to 1/4") and doubled in number. A second series (532) of "on-off" cycles was made and it was found that no significant wear occurred at any point.

Moyno 1B2, pump with Kel-F stator and stainless steel rotor driven through a 10-foot vertical shaft (no bearing pin-type universal joints) completed 21 days of operation in 1.8 M $\text{Al}(\text{NO}_3)_3$ solution at 900 rev./min. at a discharge rate of 1.8 gal./min. and a head of 8.0 lbs./sq.in.ga. The shut-off pressure diminished from 40 to 21 lbs./sq.in.ga. Operation was noisy and accompanied with vibration.

G.E. & C.L. motor-pump unit, (1/3 H.P. submerged electric motor and G.E. & C.L. turbine pump) completed 118 days of operation in 1.3 M $\text{Al}(\text{NO}_3)_3$ solution at 10 lbs./sq.in.ga. discharge head and flow rate of 0.4 gal./min. The unit was dismantled and inspected. Sleeve bearings (graphitar) decreased 0.6 to 0.8 mils in diameter and there was no change in journal dimensions. The upper thrust ring (graphitar) was unchanged and the lower one decreased 0.8 mil. The unit was reassembled and carried through 559 "on-off" cycles from which measurements of wear have not been obtained.

Submerged Jabsco Pump, employing a 10-inch i.p.s. pipe 37-feet long for a caisson-type motor housing, was designed and constructed for use in removing supernate and slurry from the 200 Area metal extraction waste storage tank. Tests indicated a capacity range from 5 to 20 gal./min. at heads of 70 to 22 feet of water.

Flow measurement and control, as represented by Fischer & Porter and Schutte & Koerting rotameters in the 321 Building, was critically examined with emphasis on mechanical and electrical components, and a digest of the components requiring improvement or correction was prepared in conjunction with the Instrument Division. Adaptation of the Foxboro recorder-controller unit to the Fischer & Porter rotameter-transmitter by changing the resistance in the bridge circuit was demonstrated. Some further work is required to maintain sensitivity. The fabrication of rotors with extension armatures in our own shops has been successfully accomplished and has resulted in a much wider latitude of changes in stream flow rates.

Process Chemistry

The solubility relationships at 25°C. for the two major solid phases, uranyl acid phosphate and sodium nitrate, in the aqueous system containing UO_2^{+2} , Na^+ , H^+ , NO_3^- in independently variable concentrations and SO_4^{-2} , PO_4^{-3} equivalent

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to the UO_2^{+2} concentration (molarity) have been determined over the titratable range of 0 to 10 M. For the region from 0 to 3.15 titratable acid, the uranyl acid phosphate phase occurs. Its solubility may be defined by the following expression:

$$\text{Log } UO_2^{+2} = \text{Log } H^+ - 0.84$$

The Na^+ concentration in this region varied from 10 to 15 times the UO_2^{+2} concentration and was found not to influence significantly the solubility. For the region 3.15 M and greater titratable acid, sodium nitrate phase occurs. Its solubility is expressed by the equation

$$\text{Log } Na^{+2} = 15.02 - 1.46 \text{ Log } H^+$$

The H^+ ion concentration in the foregoing expressions is based on titration to Na_2HPO_4 , Na_2SO_4 , and $NaNO_3$.

Preliminary studies on the direct batch dissolution of metal extraction waste in the form of supernate, sludge, and slurry mixtures have revealed a foam volume seven times the volume of the aqueous phase in the dissolver, if the required amount of acid is added rapidly (1-minute period). Slow acid addition with agitation did not produce a significant amount of foam. Dissolution of a slurry simulating the material to be handled in the TBP process showed a rapid increase in the settling rate of the solid phase during acidification and an increase in viscosity to a maximum of 3580 centipoises at a pH of 0.4. The dissolution in 15 M HNO_3 of a synthetic slurry with a composition equivalent to that shown on the TBP process flow sheet to produce an unconcentrated RAF solution results in a heat evolution of 367 g. cal./g. of U, which is equivalent to 5000 g. cal./mole of HNO_3 added.

The physical properties of TBP-Shell Deodorized Base system have been determined for a range of composition of 10 to 20% TBP. The disengaging time for the system, 50% NaOH and 15% (vol.) TBP-Shell Deodorized Base, was found to be 56 seconds. For 12.5% (vol.) TBP the disengaging time was 84 seconds. These values are indicative of a low volume throughput capacity for a RO Column if these conditions are chosen.

The stability of the ferrous ion added as ferrous sulfamate in RAF per HW #3 TBP Flow Sheet at 25°C. is equivalent to a half-life period of 53 hours. In RAFS, comparable to feed-point composition, the half-life was 59 hours.

SEPARATIONS PROCESS RESEARCH

Plutonium Analysis at the Chalk River Conference Liquid Waste Tolerance Level

The standard LaF_3 procedure for plutonium was modified to permit statistically meaningful analyses at the Chalk River Conference tolerance level of 4×10^{-6} $\mu\text{g/cc}$ Pu. Increasing the sample volume to 25 ml. (equivalent to 7.5 ct/m at 4×10^{-6} $\mu\text{g/cc}$) and the amount of lanthanum to 3 mg. gave satisfactory plutonium recovery (100 \pm 15%) in control runs in the concentration range 4×10^{-6} to 10^{-2} $\mu\text{g/cc}$. At the CRC tolerance level a counting time of ca. 30 minutes is required as well as a correction for the alpha activity due to impurities in natural lanthanum.

DECLASSIFIEDPlutonium Decontamination of 200 Area 234-5 Crib Wastes

Scavenging of a sample of 234-5 laboratory waste (D-5, Serial #3245) at pH 10 reduced its plutonium concentration to 1×10^{-6} and 4×10^{-6} $\mu\text{g}/\text{cc}$ using 10^{-3} M cupric and 10^{-3} M ferric ion, respectively. The volume reduction factor on centrifugation (waste solution/ppt.) was ca. 125 for both of these scavengers. This waste received at pH 6.5 contained only 2.2×10^{-4} $\mu\text{g}/\text{cc}$ plutonium, of which all but 3.5×10^{-5} $\mu\text{g}/\text{cc}$ had already been scavenged by an unknown solid impurity of negligible volume.

Scavenging of a sample of 234-5 process waste at pH 10 reduced its plutonium concentration from 4.5×10^{-5} $\mu\text{g}/\text{cc}$ to 13, 4, and 0.6×10^{-5} $\mu\text{g}/\text{cc}$ with 0, 10^{-3} , and 10^{-2} M ferric, respectively. These decontamination studies on process and laboratory 234-5 wastes will be extended to higher initial plutonium concentrations using actual wastes or by spiking, if necessary.

Plutonium Decontamination of 200 Area 224 Waste

Treatment of a sample of 224 crib waste with 10^{-2} M persulfate followed by neutralization to pH 10 reduced the plutonium concentration from 5×10^{-3} $\mu\text{g}/\text{cc}$ to 1×10^{-4} $\mu\text{g}/\text{cc}$. This decontamination factor of 50 represents a considerable improvement over that obtained without persulfate pretreatment. In analogy to the experience with off-standard Redox wastes (HW-15074), this is thought to be due to the elimination of Cr(III) interference in plutonium carrying. An interim report on 224 waste decontamination has been written and will be issued soon.

1131 Removal from Dissolver Solution

The glass laboratory apparatus required for this investigation has been assembled and tested for dissolving cold uranium metal. Radio-iodine studies will be initiated shortly.

Tributyl Phosphate Process Extraction Studies

A batch countercurrent run was made on a simulated concentrated composite uranium waste solution with carbonate-washed 15% by volume tributyl phosphate in Deo-Base. The scrub concentration was 2.75 M HNO_3 , which gave an acidity in the column near the lower limit, to prevent solid formation (uranium phosphates). Flow ratios of 1/2/3.5/2.5 were used (scrub/feed/extractant/strip). The uranium loss in the RAW for seven extraction and three scrub stages was 0.001% while five strip stages gave 0.01% loss in RCW. Both losses are very low and point to adequate uranium extraction at low acidity and excellent strip column behavior with carbonate-washed solvent.

Comparison of Diluents for TBP Metal Recovery

Deo-Base, Stoddard Solvent, Shell Spray Base, Varsol, Carbon Tetrachloride, Hexane, and AMSCO 125-90W were compared as diluents of tributyl phosphate (15% by volume) in contact with aqueous phases corresponding to RAFS, RAW, and RC composition with the conclusion that all extract uranium to the same degree, and the choice of a diluent will best be made on its (1) FP decontamination and (2) physical properties which may affect extraction column behavior. The latter is being given particular attention.

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Settling Rates of Hanford Sludge from Slurries

A sample of sludge taken from the Hanford uranium storage tanks was slurried with different ratios of supernate at 25°C. and the free falling (initial) rate of settling measured. The rate increased from seven inches clears/hour for 5.5 cc supernate/gm. sludge to 58 inches clears/hour for 35 cc supernate/gm. sludge. The final sludge volume for a ratio of 10 cc supernate/gm. sludge was 9.5% of the initial slurry volume or one gram solid suspended per cc sludge. The results with Hanford sludge were closely verified with a sample of synthetic sludge that had been equilibrated at 80°C for three months by the Chemical Development Section.

A sample of 20 grams of Hanford sludge suspended in 100 cc of supernate in an open container gave a radiation of 350 mr./hr. beta and 10 mr./hr. gamma at 12 inches.

Concentration of RAW and Nitric Acid Recovery in the TBP Process

The waste solution (RAW) from the extraction column of the TBP process was concentrated continuously by distillation at distillate to feed ratios of 0.5, 0.6, 0.7, and 0.8 to give recoveries of HNO₃ of 31, 53, 72, and 94% of the available HNO₃ (3.28 M HNO₃ initially available). For an RAW with 2.03 M HNO₃ initially available, recoveries of 63 and 89% were obtained for distillate to feed ratios of 0.7 and 0.8, respectively. Freezing points of these solutions during concentration, and of the waste residue before and after caustic neutralization, were determined as a function of dilution. A summary report on the recovery of nitric acid and concentration of waste is being published as HW-16054.

Hexone - Nitric Acid Reaction Studies

The rate of reaction at 40°C between hexone and nitric acid in the presence of nitrous acid was found to be appreciably faster than at 25°C and occurred at lower nitric acid concentrations. At 40°C 0.01 M nitric acid in the presence of 0.01 M nitrous acid gave detectable amounts of dinitroisobutane and methylisopropylidiketone. No reaction was observed in the absence of nitric acid.

The formation of the oxime has been postulated as the first reaction between hexone and nitrous acid. Its formation and disappearance was followed quantitatively by utilizing the anion absorption at 276 millimicrons in alkaline solutions. These data indicate that the nitrous acid content follows the oxime concentration.

Continuous Cross-over Oxidation of IBP

Spectrometric and distribution studies were completed indicating rapid and complete oxidation of Pu(III) to Pu(IV) in simulated IBP by 0.02 M dichromate. Accordingly, it appears feasible to carry out the required oxidation in or immediately prior to the IIA Column by addition of dichromate to the scrub and/or feed. Results of this investigation are reported in HW-16053.

DECLASSIFIEDRuthenium Tetroxide Distillation

Preliminary data indicate that ozonization gives the desired decontamination when aged (50 days) dissolver solution is in contact with stainless steel during the ozonization step. In a control run (no stainless steel in contact with the solution) the decontamination factor through the ozonization step, an extraction stage, and two scrub stages was 6.5×10^4 . With stainless steel present during the ozonization step, decontamination factors varied from 2.2×10^4 to 7.4×10^4 . Further studies will be made on the ozonization in the presence of stainless steel, particularly with dissolver solutions one to ten days old.

The solvent extraction behavior of ruthenium left in dissolver solution after ozonization does not appear to be greatly affected in Filtrol scavenging steps. The decontamination factor through an extraction and two scrub stages only was 11,000 after ozonization; after Filtrol scavenging of this solution and standing for 29 days with adjustment to -0.2 M acid deficiency, the decontamination factor was 5600.

Recovery of Plutonium from Slag and Crucibles

It has been demonstrated that KOH fusion of crucible fragments containing plutonium results in a product which is easily soluble in nitric acid. Silica settles out of the acid solution (in one experiment the settled volume of silica was $1/4$ that of the solution) and adsorbs about 15% of the plutonium. This plutonium can be leached from the silica with hot nitric acid. Removal of the silica can be accomplished by filtration with the use of a filter aid. The plutonium in the resulting $\text{Mg}(\text{NO}_3)_2$ solution can be quantitatively precipitated as the hydroxide at a pH of 7.

A preliminary study of leaching slag and/or crucible materials with nitric acid to dissolve the plutonium and leave the major portion of the non-plutonium solids in the undissolved residue has indicated that the method is promising. Slag leaching appears to be very effective with 99% of the plutonium dissolved with $2/3$ to $3/4$ of the slag. Leaching of the crucible is slower, but can be made to give near-complete plutonium dissolution with fractional dissolution of the crucible material.

Coupling of Redox to 234-5 Operations

Data have been obtained indicating the feasibility of eliminating 231 Bldg. operations between the Redox end-stream and 234 Bldg. operations. IIBP solution (1.14 g. Pu/l.) obtained from full-level Redox runs (first cycle at ORNL, second cycle at ANL) was concentrated to a small volume (ca. 180 g. Pu/l) by evaporation and the concentrate used directly for plutonium(III) oxalate precipitations. Incomplete spectrographic analyses of two plutonium(III) oxalate precipitates prepared in this manner indicate that the purity of the product is comparable to that obtained in current 234 operations.

Important in both process and design considerations is the fact that the still residue after Redox end-stream evaporation will contain a high concentration of nitric acid. If evaporation to only ca. 10 g. Pu/l. is employed, as specified in the present flow sheet, the final HNO_3 concentration will, according to HDC-1256, be about 5 M . Observations made in this work indicate

that it may be as high as 8 M; i.e., HNO_3 removal up to this point is slight. This HNO_3 concentration is too high even for peroxide precipitation in the 231 Building and would require either partial neutralization or dilution almost back to the original volume, both of which are objectionable. A higher degree of concentration giving more efficient HNO_3 removal appears to be in order. This, in fact, is essential if the economies of 231 Building elimination through direct oxalate, arsenate, or phenyl arsonate coupling of Redox and Metal Production are to be realized. Such coupling methods appear to require concentration to at least 300 g. Pu/l., since only a small-volume isolation operation can be accommodated in the 234 Building and preparation of large volumes of oxalate, arsonate or phenyl arsonate supermate for recycle to the Redox Process would be difficult. ANL IIBP solution has been concentrated to ca. 400 g. Pu/l. with no evidence of precipitation and deposition of only a small amount of readily-soluble crust above the water line.

234-5 PROCESS DEVELOPMENT

The solution obtained from the incomplete nitric acid dissolution of the combined slag and crucible residues from five 10-gram scale laboratory reductions has been processed through two hydroxide precipitation cycles. Analysis of the second cycle precipitate indicated 1.74 units of plutonium to be present. On the basis of the calculated plutonium material balance for the reduction processing, the crucibles and slag contained 1.71 units of plutonium. In view of the analytical uncertainties, the plutonium recovery may be considered complete. A flow sheet has been prepared for this process, which can also include handling the solutions used to pickle and rinse the buttons. Analytical data indicated that the supernatant solutions from the precipitation of plutonium hydroxide, the proposed method of treating laboratory wastes containing plutonium, contained 3×10^{-4} grams plutonium per liter of solution.

Exploratory experiments were made to find a material other than hydriodic acid with which to dissolve skulls resulting from the remelting step in the operations, as well as plutonium oxide from the process. Although very little of a 0.5-gram sample of oxidized plutonium was dissolved with boiling 16 M nitric acid, the entire sample went into solution after refluxing it for ten minutes in a 16 M nitric acid-0.1 M hydrofluoric acid mixture.

A filter, which consists of a sintered platinum disc encased in a Hastelloy C tube, has been fabricated for use as a filter-reactor. It is planned to filter and wash precipitates on this equipment, and then transfer the unit without disturbing the precipitate to the subsequent hydrofluorination part of the process cycle.

STACK GAS DISPOSAL

All recorded efficiencies at the T Plant sand filter continued in a lower range (97 to 99.1%). The possibility of contamination in the piping of the downstream monitor is being investigated.

An investigation of the filtration efficiency of "AA" Fiberglass is in progress. A sharp break in the efficiency trend (resulting in markedly higher values) has been obtained with velocities in excess of 100 ft./min. The study is being continued to determine whether this increase in efficiency is due to impingement or an increased packing density resulting from bed compression.

A filter paper produced by A. D. Little Co. as a CWS Type 6 substitute was tested on the Canyon ventilation air for contamination removal efficiency. CWS Type 6 paper was employed as the downstream monitor. The filtration efficiencies (ranging from 99.0 to 99.85%) are of the same order as the values obtained for CWS Type 6 paper. Definitive efficiency values in this high range could be obtained only by performing a large number of tests and statistically evaluating the results

INVENTION AND DISCOVERY STATEMENT

All persons engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report except as listed below. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

<u>Name</u>	<u>Title</u>
A. G. Blasewitz	Removal of Iodine from Gas Streams by a Silver-Reacting Bed.

R H Beaton

R. H. Beaton
Separations Technology Division

Date: March 1, 1950

TECHNICAL SERVICES DIVISION

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FEBRUARY 1950

VISITORS & BUSINESS TRIPS

3-10-50

There were no offsite visitors to the Division during the month.

Business trips of Technical Services personnel were as follows:

M. Lewis spent February 1 and 2 at Louisiana State University, Baton Rouge, where he attended the Symposium on Modern Methods of Analytical Chemistry sponsored by the American Chemical Society.

A. H. Bushey spent February 13 and 14 at Schenectady discussing analytical techniques with personnel of KAPL and the Research Laboratory. He attended the A.C.S. Analytical Symposium in Pittsburgh on February 15, 16 and 17, and recruited technical personnel at the University of Chicago on February 20, and at the University of Wisconsin on February 21.

F. B. Quinlan spent February 20 at the Penberthy Instrument Co. plant in Spokane, Wash., discussing their special fabrication of high-density lead glass.

C. G. Stevenson spent February 23 and 24 at the Argonne National Laboratory, discussing technical information problems, and February 27 and 28 at the Mound Laboratory, Kiamisburg, Ohio, attending a meeting of the Technical Information Panel.

M. C. Lambert attended the Spectrophotometer Service Course conducted by G. E. in Schenectady on February 27-28.

ORGANIZATION AND PERSONNEL

Personnel totals in the several subdivisions are summarized below:

	<u>January 31, 1950</u>	<u>February 28, 1950</u>
Analytical Section	322	319
Engineering Section	51	56
Information Group	61	60
Statistics Group	12	13
Administrative	<u>3</u>	<u>3</u>
Totals	449	451

The Analytical Section employed one exempt research chemist, one non-exempt chemist, two laboratory assistants and one draftsman; one stenotypist and two laboratory assistants were lost by resignation. Three draftsmen were transferred into the Section, and three laboratory assistants, one designer and one engineer were transferred out. Three Analytical Section personnel

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went on leave of absence.

Effective February 1, 1950, an Equipment Design Unit was established in the Engineering Section. This new unit is responsible for all laboratory equipment design activities in the Technical Divisions (except for that on Rala, which is continuing under Analytical Section supervision). Five personnel were transferred into the Section in establishing this new Design Unit (one design engineer as Unit Leader, two engineers, and two draftsmen). In addition, one carpenter was transferred in from the Maintenance Division for the Technical Shops in Eldg. 101. One stockkeeper went on leave of absence.

The Information Group employed one Technical Graduate for abstracting work, and lost two clerks through resignation. One new exempt statistician was added to the Statistics Group.

The first Technical Graduate to report for work under the new Rotational Training Program was assigned to the 100-H Area analytical laboratory on February 24.

ANALYTICAL CONTROL

Work Volume Statistics

The following tabulation shows the source and volume statistics for samples on which analyses were completed:

	January		February	
	<u>Samples</u>	<u>Determinations</u>	<u>Samples</u>	<u>Determinations</u>
Routine Control - 200	3,604	10,136	3,734	8,798
Routine Control - 300	571	1,350	507	1,072
Water Control - 100, 700	1,148	3,546	1,102	3,063
Fedox & TBP Programs	2,212	4,694	2,273	4,520
Process Reagents	1,447	1,837	1,362	1,680
Essential Materials	81	437	87	355
Special Samples	2,633	7,509	3,430	10,270
Stack Gas Filters	57	104	53	76
Totals	11,753	29,613	12,548	29,834

100 Areas Water Control

Tests have been started to determine the effects of pH, chlorination, and bentonite clay addition on the flocculation of Columbia river water. These tests are planned to continue intermittently for a period of several months in order to include conditions of high and low turbidities in the river.

200 Areas Control

The precision of the results of the analysis of the canyon starting solution (6-3-1R), the Isolation Building starting and final solutions (P-1 and AT, respectively) and the 234-5 Building starting solution (P-4) may be summarized

Technical Services Division

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as follows:

Sample	Precision \pm %		
	Expected	January Average	February Average
6-3-MR	1.58	1.12	1.32
P-1	2.39	3.63	3.21
AT	1.98	1.94	1.87
P-4	2.51	2.64	2.52

In order to maintain closer control of C cell operation in Bldg. 224-T, quantitative analysis of all 2% lanthanum salt solution samples from tank F-1-A has commenced. Also, gross gamma analyses are being made on certain canyon solution samples (13-4-BP, 16-4-BP and 18-4-BP) in B and T Plants to provide information on current difficulties with process decontamination.

300 Area Control

Methods for the evaluation of used Prestone were studied for the A.E.C. Investigation showed that a potentiometric titration of the organic inhibitor (tri methylamine) with standard HCl was satisfactory.

Methods have been investigated and written for the determination of the rare earths and chloride in plant process uranium oxide samples.

Numerous samples have been received from the uranium chip recovery process as a result of the production test substituting calcium nitrate for calcium chloride flocculating agent, as recommended by the Analytical Section. These samples were analyzed for halogens, rare earths, boron, molybdenum and phosphorus.

A sample of MgOCl was analyzed for carbon to determine whether the CO₂ reported in the gas collected from irradiated MgOCl could account for the carbon present; 9.37% carbon was found, which would account for the CO₂ content of the gas.

Chemical Research Service Laboratory

A sample of waste from the 321 Building (W-14 Tank) was found to have approximately 2,000 d/m/ml of Pu. The sample was checked for active Ru and Zr with negative results.

Samples submitted for fluoride determination are being analyzed by means of a H₂SiF₆ distillation followed by a thorium nitrate titration. The method is time consuming but gives satisfactory results.

Chemical Development Service Laboratory

At month's end there were 43 people assigned to analytical control service for the Chemical Development Section's programs. The efforts of the laboratory this month were devoted to the support of TBP process development activities in Bldg. 321.

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DECLASSIFIEDMethods Adaptation

Further investigation of the determination of 40-8 by ferrocyanide titration following a hexone extraction indicated that the method gave increasingly high results with increasing amounts of 40-8. This effect was attributed to the precipitation of such double salts as $K(40-8)Fe(CN)_6$ along with the expected $(40-8)_4\sqrt{Fe(CN)_6}/3$. It has been found that the ammonium double salt may be precipitated under certain conditions to yield determinations of 40-8 within $\pm 1.5\%$ of the actual value and with improved end-point. Satisfactory titrations in a hexone emulsion have not yet been achieved.

An RAW type sample without UNH gave a polarographic reduction wave comparable to 0.1 g/L UNH. The first reduction wave of uranium is lost when iron is present, since the phosphate ion prevents the reduction of iron by hydrazine sulfate.

Determinations of specific gravity by the falling drop technique, using reference liquids of the same specific gravity but with varying viscosity, indicated that use of the reference liquids of high viscosity resulted in a desirably greater region of linear calibration.

The precision of various sampling pipets proposed for use in the Rala Laboratory was determined by delivering a measured amount of standard acid from the pipet and then titrating the acid with a standard base.

Results to date indicate that U(VI) can be titrated in the presence of either PO_4^{-3} or Fe^{+3} with good precision using chromous sulfate as the titrant. When both Fe^{+3} and PO_4^{-3} are present, the ferric iron and the UO_2^{+2} are quantitatively reduced at the same potentiometric endpoint and the iron correction must be made.

Preliminary investigations indicated that preparation of new standards will permit the determination of impurities in the P-4 sample by the carrier concentration spectrographic method with moderate precision and sensitivity. Four films for each of the following impurities in U_3O_8 have been prepared by the carrier concentration method: 10,000 ppm. Fe, 4,000 ppm. Ni and 2,000 ppm. Cr. In most cases of interference, substitute lines can probably be used.

Counting Standards

A great deal of difficulty was experienced early in the month in obtaining satisfactory counting results. Investigation revealed the difficulty to be due to (1) fluctuations of $+12\%$ to -4% in the regulated and normal voltage supply, and (2) line frequency deviations as great as 0.8%. The net result of these changes was a complete loss of control over the instruments.

Several sets of electroplated "pic plates" were received for use in the coincidence study. The ranges of these samples are such that the coincidence may be determined from 350 c/m to 100,000 c/m. No coincidence loss was observed from 350 c/m to 700 c/m.

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One set of electroplated pie plates was tested. Plateaus obtained with these electroplated discs were, as desirable, much flatter than normal, reflecting the effect of the discrete energy characteristics of the plutonium on the discs prepared by this technique.

Rala Laboratory Design

Seven drawings showing plans, elevations and isometric views of cubicle, storage area, decontamination area and arc chamber facilities for this laboratory were completed and issued for comment.

Two additional lists have been prepared itemizing catalogued and non-catalogued equipment required. The catalogued items will be issued as a revision to "Rala Project Specification Letter #36, Analytical Equipment Requirements," document HW-13523. The list of non-catalogued items will be forwarded to the D & C Divisions for inclusion in their M & E lists.

The second Rala Analytical Laboratory Design Progress report, document HW-16060, was issued during the month. It described plans for "mocking up" the analytical line in the 101 Bldg., and listed the prints issued specifying foundations for the various components in the laboratory. This latter work was completed ahead of schedule so that D & C could proceed with the building shell and foundation plans.

A draftsman was employed for assignment to Rala Laboratory design and is on loan to D & C while awaiting formal security clearance. The loan of one design engineer from D & C has been extended for one month.

Mr. Siess, West Coast sales representative of the Licnel Corporation, met with the Rala Laboratory design unit on Feb. 11. Considerable general information on model trains and parts availability was developed for use in designing the Remote Control Transport (RCT) system. Arrangements have been completed whereby the Instrument Division will study and report on the feasibility of the proposed electronic controls for the RCT system.

Special Hazards Control

A special air sampling test program was started during the month of February in Bldg. 222-T by the H. I. Operational Division. This test program, which is expected to take approximately four months to complete, should furnish information as to the source and concentration of the air borne radioactive particles detected in both of the Bldg. 222 Laboratories. The same program is planned for the 222-B Laboratory.

Six special stainless steel cans with lids were received from the Maintenance Division for use in transporting liquid wastes from the 234-5 Analytical Laboratories to the 231 Analytical Laboratory for transfer to the 231 Bldg. RC can and return to the process.

The high radiation level of second cycle by-product samples (18-4-EP) in B Plant has made it necessary to use doorstep type sampling equipment rather than bayonet type equipment. This procedure change was effected January 27.

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The installation of "Banjo" type air samplers in the 231 Laboratory was completed.

The underground wood-timbered dry waste disposal crib at the rear of Bldg. 222-B collapsed late on February 8. The sunken ground area was backfilled promptly, and a work order was issued to the Project Engineering Division to cover the design and cost estimation of a replacement crib.

Foot treadle valves were installed for the decontamination sinks and the liquid waste aspirator in Bldg. 222-B, and similar work is scheduled for 222-T during March. These valves should reduce water consumption by a factor of ten.

Analytical Manuals

Issuance of the Laboratory Manual has been delayed pending completion of the apparatus prints. Work of editing new methods to keep the manual up to date has continued. The daily and monthly SF materials accountability reports have been prepared as scheduled.

SF Materials Accountability

Documents HW-16080, "SF Materials Accountability Procedure," and HW-16082, "SF Material Accounting Procedures," were issued during the month. The former details the system of control of such materials in use in the Section (both Control and Research), while the latter defines the various samples received by the laboratories, presents the checking limits within which acceptable laboratory results must fall, and gives references to laboratory manuals where method descriptions are detailed.

ANALYTICAL RESEARCH

Present Separations Process

Experimental work has been completed in the development of a spectrophotometric procedure for the simultaneous determination of plutonium in its several valance states in P-1 solutions; the accumulated data are being examined to establish the accuracy and precision of the procedure.

Studies aimed at the preparation of counting discs suitable for use in the alpha pulse analyzer, the fission counter and other counting equipment have produced a method yielding 94 to 99% efficiency for plating plutonium on the platinum disc. The method involves the prior oxidation to Pu(VI) in acid solution with ozone, and the subsequent electrolysis from alkaline solution; the caustic concentration was found to be a very critical factor in the operation.

234-5 Process

Parts for the apparatus to be employed for the determination of carbon in plutonium metal have been constructed for assembly and testing. Research has been undertaken on the use of a TTA-extraction procedure for the determination of impurities in plutonium materials; it was found that some impurities can be extracted from solution if plutonium is held in the trivalent

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state with hydroxylamine hydrochloride.

Document HW-15846, carrying the title "A Comparison of Two Methods for the Spectrochemical Analysis of Plutonium," was issued; it concerned the cup-ferron-copper spark and carrier concentration methods.

Redox Process

Encouraging results have been obtained from laboratory tests designed to shorten the determination of radiocerium; the method tested is similar to the present established one, but eliminates a number of the steps involved in it.

Document HW-15944, carrying the title "The Determination of Total Plutonium in the Presence of Aluminum," was issued.

Metal Recovery Process

Continued study of the determination of TBP in Shell base by infrared absorption techniques has led to improvements and shown the method to have a precision at the 99% level of $\pm 0.2\%$ TBP in the concentration range of 5 to 15 weight percent. Interference was found to result from the presence of nitric acid and of UNH in concentrations of greater than 20 g/L; it was found that these interfering substances may be eliminated by treatment with anhydrous E_2CO_3 followed by centrifuging.

Rala Process

An autotitrator, such as proposed for the determination of acid in Rala streams, was tested by making repeated analyses of acid solutions; an accuracy of -0.4% and a precision (99% limits) of ± 0.97 were obtained. Document HW-16079, carrying the title "The Behavior of Electrodes in a High Intensity Radiation Field," was issued.

Pile Technology

Laboratory work has been undertaken on the use of an infrared absorption method for the determination of possible impurities in CO_2 used in pile atmosphere; such a method promises to detect all but that limited number of impurities having no infrared absorption. Preliminary tests have established a suitable and convenient method of preparing synthetic gas mixtures for sensitivity studies.

ENGINEERING SERVICES

Technical Shops

General

The Pad Room of Bldg. 101, which is in use by Pile Technology for the P-12 Project, was made an exclusion area. Necessary contacts and arrangements were made with the G.E. and A.E.C. Security Divisions, as well as with the H.I. Divisions.

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Estimates were submitted for mock-up work in connection with Rala Laboratory design, including the remote control transport (RCT) features.

Scoping was continued on layout and equipment requirements for the mechanical development shop planned for the new Laboratory Area.

Blg. 101 Shops

Fabrication work was completed on the graphite cutting tool to be used for the removal of a filler block graphite sample from D pile. A complete mock-up of graphite was made and the cutter tested under conditions simulating those in the D pile. Test results were extremely satisfactory, and were witnessed by representatives from the P, Maintenance and H.I. Divisions. The cutter was accepted (as fabricated) for use in the field by the P and Pile Technology Divisions.

At the request of Pile Technology, a tool for the removal of the graphite sample cut by the above-mentioned tool is being devised. Design work was completed on this tool and fabrication started. This retrieving tool is similar to the cutter tool, and is to be operated and controlled from a distance of 20 ft. from the point of the actual retrieving operation.

Fabrication was completed on a warp gage for measuring the warpage of slugs, regardless of oversize or undersize diameters. This gage is for operation under approximately 20 ft. of water, in conjunction with a turntable now being used by the Pile Technology Division. It has undergone simulated test conditions and some revisions were made to correct minor faults.

A number of specialty items for use on the P-12 Project were designed and fabricated. These included such items as source cup holders, source bar table, source cap guide, split screw driver with 12 ft. handle and source plate holders. In addition a die was fabricated for stamping aluminum foil dishes.

Design work progressed on the first P-12 unit. At the same time, design was nearly completed on development of bases that can be used for P-12 units through minor adjustments regardless of lattice arrangement.

Machine work was completed on a "Rotobin Dolly" for the Metallurgy Section. Machine work also was completed on an aluminum cylinder with plugs for each end and a specimen holder.

Shop work was completed on mechanical tongs and the mounting of accessories in the cave mock-up. This work was done for the Chemical Research Section. A number of jobs for this Section were worked on, including the fabrication of pipettes for manipulator ball and syringe valve control tongs, mechanical jaw tongs for manipulator ball and swivel jaw tongs.

Development and machine work were continued on a vertical lift for use in conjunction with the RCT system planned for the Rala Laboratory. Some work was done on revisions to the RCT equipment itself.

Work continued on the revision of 135G sheet rod test graphite details for use in connection with the Design Division Ball 3 X test. Additional machining of graphite details for this job was held up pending receipt of drawings from the Design Division.

Machine work was completed on the revision of graphite details for the Design Division's stress concentration test.

Work was commenced on the fabrication of an automatic experimental sampler for use in connection with the Rala Laboratory design. The sampler will have a capacity of one ml. The cost of fabricating an additional sampler of 0.06 ml capacity is being estimated.

Bldg. 3706 Machine Shop

Fabrication work on a motor driven Ultramicroburette was completed. The commercial model was manually operated and had no provision for rotating the sample dish for stirring. The revised unit has one motor for operating the solution feed plunger and two others for raising, rotating and lowering the sample table. The completed model controls are operated at close range, but could be fabricated for remote operation.

A Syringe Microburette was fabricated for the Chemical Research Section. It consisted of a micrometer feed for the syringe and a number of tips of varying design for testing drop size and reaction under variable conditions. The success of this device depended entirely upon extremely close tolerances and fine machining.

During the month there were a total of 46 jobs received in this shop, of which 37 were completed. At month end there was a job backlog of 13.

Glass Shop - Bldg. 3706

The Glass Shop completed 122 jobs, which could be broken down as follows:

New Jobs	75
Repairs	22
Revisions	25

E. F. Gates, of the Bldg. 3706 Glass Shop, gave some 700 Area Instrument Division laboratory personnel special instruction in some of the glass working techniques which are normally associated with their work.

300 Area Services

Stockroom and Work Order activity is reflected by the following work volume statistics:

Purchase requisitions processed	59
Purchase requisitions requiring emergency handling	1
Purchase requisitions requiring special expediting	15
Stores stock requests processed	2
Store orders processed	865
Emergency deliveries	10
Work Orders processed	84

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DECLASSIFIEDNew Laboratory PlanningProject C-187-E - Redox Laboratory - Bldg. 222-S

Several sections, including the architectural, foundation and structural steel drawings were approved and released to the field construction forces. The electrical, plumbing and process piping plans were reviewed and several changes were recommended. Review of the heating and ventilating plans was continued, with special attention given to control systems and noise levels. Outline drawings, similar to "scope" drawings of all major equipment pieces except the Junior Cave, were submitted for AEC approval. Final modifications, dictated by field testing, were made to the Junior Cave design. Several cost reducing building design changes were initiated, including a reduction of underground drains. Pre-construction design work is estimated to be 90% complete.

Alternate proposals for waste disposal systems were outlined and submitted to the Design Divisions for cost estimating. The completed estimates were returned to the Technical Divisions on February 27.

Study GET-14 - Radiochemistry Building

Cost estimates of the Radiochemistry Building, being prepared by the Design Divisions, were virtually completed. Information as to the service loads was accumulated to expedite the completion of Study GET-16 (see below).

Study GET-15 - Radiometallurgy Building

An assembly sketch of the 30 curie cell manipulator-positioner was completed. Sufficient progress was made on the preliminary designs of the 1,000 curie cells to permit estimating.

Study GET-16 - Laboratory Area Plot Plan and Utilities

A preliminary plot plan was submitted by the Design Divisions for review by Technical.

High-Density Glass

The first specimen of high-density lead glass was received from Penberthy. This glass, which is reported to have shielding properties about equivalent to that of steel on a thickness basis, is of great interest for direct viewing windows.

Laboratory Equipment Design

The Equipment Design Unit formed on February 1 is using two offices and a mock-up area in Bldg. 101.

The Junior Cave program for Bldg. 3706 proceeded on schedule, and three such caves are being fully outfitted for the Chemical Research Section. Assistance was given in the outfitting of one cave for the Chemical Development Section.

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The standardization of gloved box designs was pushed. Four commercial boxes were received from the Radioisotope Applications Co. the week of February 20.

The design of the tensile specimen cutter was completed for the Metallurgy Section. Work on slice and dico equipment was resumed.

Miscellaneous designs completed or nearly completed were for: (1) A magnetic stirrer, (2) a tilting-jaw manipulator for junior caves, and (3) an automatic timer for an automatic sampler for use with resin columns.

STATISTICAL STUDIES

300 Area Operations

The statistical study of analytical results obtained to date from the uranium sample exchange program between Hanford and Mallinckrodt was completed. Several statistically significant differences in results were noted (Document HW-17019).

The correlation study of Eldg. 313 weekly canning rejects, occurring during the year 1949, was completed. It was found that the reject causes having the most variable effect on the yield were bad welds, marred surfaces, and thin caps; those which correlated significantly with each other were frost tests with non-seats, aluminum-silicon with non-seats, and aluminum-silicon with air pockets.

At the request of the Pile Technology Division, a procedure for sampling P-10 lots for Test Pile evaluation was devised. A report is being written. Other computational work and chart making for the P-10 program was performed.

A statistical analysis of aluminum magnesium hardness data was made for the Metallurgy Section to determine the effect of 30, 90, and 180 days of irradiation on the metal.

Other statistical work performed on 300 Area problems during the month included (1) a correlation study between density and carbon of billets B-9831 to H-862 for the 300 Area Plant Assistance Group, (2) initiation of controls for LD-2 and CRD-2 oxides to be used for modification of experience factors, and (3) the determination of coefficients of thermal expansion for the Metallurgy Section.

100 Area Operations

Due to the lack of strict comparability of pre-exposure and post-exposure dimensional measurements of slugs, it has been recommended to the Pile Engineering Section that slug measurements from each tube be taken before and after exposure by the same method, and that an individual slug measurement record be kept so that a direct comparison can be made.

Dimensional measurements of uranium slugs exposed under PT 105-238-P, PT 105-255-P, and PT 105-278-P, are being compared to Group V alpha rolled

uranium exposed to 400 K.W.D. to determine unusual dimensional changes or increase in variability as the exposure level is increased.

Computational work was performed on four different problems for the Pile Physics Section during the month.

200 Area Operations

Further statistical study of the optical density method for determination of percent tributyl phosphate resulted in satisfactory calibration of the method by means of quadratic equations. In addition, various sources of error in the method were separately evaluated from experimental data.

A program to study F-10 and P-1 comparisons, with special emphasis on plant sampling, was planned in cooperation with the Analytical Section.

Investigation of possible connection between shifts in the AT-Specific Gravity Relationship and the periodic changing of nitrogen supply cylinders at Bldg. 231 was begun.

Further computations were made on data from Bldg. 234-5 spectrographic standard analyses, at the request of the Analytical Section.

Collection of data from 200 Area waste and yield samples for the past several months was begun, in preparation for correlation studies of waste losses and enrichment level, and for a comprehensive study of process performance.

Miscellaneous

At the request of the Design and Construction Divisions, solutions to simultaneous equations at various values of constants were made.

In cooperation with Pile Technology personnel, a proposal for a Technical Divisions IBM Computing Laboratory was submitted for consideration. Details included equipment, space, and personnel requirements.

LIBRARY AND FILES

Plant Library

The bound periodical collection of the Plant Library was enriched by the receipt of a substantial run of the "Proceedings of the Royal Society of London" for the years 1905-1949. In addition, a 17-year run of the "Biochemical Journal" was received.

Application of the Library's technical reference resources to the problems of the Plant continued on a routine basis. Following is a representative sampling from the many literature searches made:

- Plaster casting of aluminum.
- Design of aquariums.
- Lead analysis of timber ring joints.

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- Heat capacity of nitric oxide.
- Neutralizing static charges on analytical balances.
- Classification of laundry soaps.
- Iodine content of molasses.
- Preventing attack of soil bacteria on canvas.
- Temperature coefficient of gasoline.

Library statistics were as follows:

	<u>January</u>	<u>February</u>
Number of books on order received	232	200
Number of books fully cataloged	215	271
Number of bound periodicals processed but not fully cataloged	1	209
Pamphlets added to the pamphlet file	5	2
Miscellaneous material received, processed, and routed (Including maps, photostats, patents, etc.)	37	28
Books and periodicals circulated	1,655	1,592
Unclassified reports processed	110	98
Unclassified reports circulated	99	162
Reference services rendered	725	680

	<u>Main Library</u>	<u>W-10 Branch</u>	<u>Total</u>
Number of books	5552	2185	7737
Number of bound periodicals	4006	100	4106

Classified Files

A supply of the newly-designed "Receipt of Material" form was received for use in the Classified Files. It is anticipated that use of this form, which is numbered, prepared with snap-out carbons, and color controls will greatly expedite offsite transmittal of classified documents, and eliminate a number of posting operations.

With the recent transfer of the Engineering Files from the Design and Construction Divisions to the Project Engineering Division, arrangements were made to return the handling of all classified material formerly issued and controlled by these Engineering Files to the 700 Area Classified Files.

A meeting was held with representatives of G. E. Security, D & C Classified Files, Operations Classified Files, and representatives from the Print Shop and the Area Duplicating Units to discuss the problem of reducing the number of rough drafts and extra copies of classified documents. Those present were asked to draft tentative procedures covering the matter which could be incorporated by the Security Office into an effective Instructions Letter.

The work of the Audit and Inventory Unit showed a 100% increase in the number of files inventoried. This procedure has already discovered 12 documents previously accounted missing in the earlier inventory. Unfortunately, the increase in the return of documents to Files has accentuated the critical

Technical Services Division

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space problem in the 300 Area Classified Files.

Work statistics for the Classified Files were as follows:

	<u>January</u>	<u>February</u>
Documents Routed	21,045	16,772
Documents issued	7,536	5,969
Reference services rendered	3,452	3,650
Reports abstracted	378	260
Registered packages prepared for offsite	275	317
Inter-area mail sent via transmittal	17,331	17,150
Holders of classified documents whose files were inventoried:		
a. Because of normal perpetual inventory procedure	17	31
b. Because of transfer of work assignment	3	4
c. Because of termination	3	-
Volume of unclassified mail handled by 300 Area Mail Room	20,335	19,487

Central Report Publications Unit statistics were as follows:

Ditto masters run	820	973
Mimeograph stencils run	2,630	1,328
Ditto master copies prepared	26,110	33,264
Mimeograph copies prepared	72,493	59,888
Formal Research and Development reports issued	7	8

INVENTIONS

All Technical Services Division personnel engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during February 1950. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

Signed

T. W. Hauff
 T. W. Hauff
 Division Head

TWH:mcs

1212429

MEDICAL DIVISIONS

FEBRUARY 1950

DECLASSIFIED

Summary

The Medical Divisions' roll changed very little from 362 to 361.

A meeting of our medical consultant group was held in Richland on February 10th, 11th and 12th. The problems of Industrial Medicine and Public Health were considered, and further attention was given to the problem of balancing the Hospital Budget. Dr. Ellis Sox, Chief of Local Services Division, Public Health Dept., State of California, joined the consultant group to advise on the public health aspects of the program here. It is expected that this will be the last visit of the consultant group, and their final report is expected shortly.

Dr. Eckles attended the Information Meeting of the A.E.C. Division of Biology and Medicine in Washington, D. C. Dr. Norwood gave a paper at the annual meeting of the Academy of Occupational Medicine in Cincinnati, and visited the Medical Divisions at the Apparatus Dept. in Schenectady and the Knolls Atomic Power Laboratory.

Industrial

There was no evidence of injury to any employee due to radiation.

Employee physical examinations were up 41% from 1695 to 2394, due largely to increased subcontractor employment. Dispensary treatments dropped from 5473 to 4965. Two major and five sub-major injuries were treated. One of the major and two of the sub-major injuries were sustained by G. E. employees.

The health topic urged allergic employees to seek aid now before the start of the major pollen seasons for best preventive treatment.

Sickness absenteeism declined from 2.23% to 1.96%, while total absenteeism was down from 2.84% to 2.44%. This compares with 3.20% for February, 1949.

Communities - Hospital and Clinics

The average daily hospital census changed very little from 86.7 to 85.7, the adult census being 74. This compares with a total average census of 127 a year ago.

Clinic visits changed very little from 5482 to 5506.

Public Health

It was gratifying to note attendance at public health lectures and talks exceeded 500 for the second consecutive month. A mental health series of lectures concluded during the month received excellent community support.

Eleven food establishments were given Grade A ratings while two received Grade B ratings.

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MEDICAL DIVISIONS

FEBRUARY 1950

Costs

The net cost of operating the Medical Divisions (before assessments to other divisions and workmen's compensation costs) was \$83,260., a decrease of \$8,762., and \$28,894. below the budget figure. The improvement was due to a large increase in revenue which more than offset an increase in total expense.

The net cost of the Richland Community Medical Program was \$6,504., a decrease of \$3,305., and \$16,794. below the budget estimate.

Kadloc Hospital cost was \$3,374. as compared to \$1,216. for December and a budget figure of \$14,750.

The clinic cost was \$3,130., a decrease of \$5,463. due to increased revenue.

MEDICAL DIVISIONS

FEBRUARY 1950

Industrial Medical Division

General

Examinations increased from 1695 in January to 2394 due chiefly to an increase in subcontractor examinations, of which there were 1054. The number of first aid treatments, however, decreased from 5473 in January to 4965. General Electric employees sustained one major injury and two sub-major injuries. Subcontractor employees sustained one major and three sub-major injuries, or a total of two majors and five sub-majors treated.

The Industrial Medical program was reviewed by the consultant group on February 10th and 11th. This group consists of Dr. Herman Smith, Mr. William S. McNary, Dr. R. A. Moore and Dr. S. T. Cantril. There was a detailed discussion by the group as to the overall program including costs, followed by a trip to the operating areas. A report of their findings is to be submitted at an early date.

To better coordinate control of chemical hazards on the plant, a permanent committee was organized during the month, which will be called the Chemical Hazards Committee. The function of this committee will be similar to the Special Hazards Committee, which functions in the control of radiation hazards. The membership will be made up of a representative from the Industrial Medical Division (Chairman), the Safety Division, the H. I. Divisions Industrial Hygiene group, and the Manufacturing Divisions.

The subject of the industrial physicians' scientific meeting dealt with summaries of two recent meetings. They were the A.E.C. Washington meeting of Biology and Medicine, and the Cincinnati meeting of the American Academy of Occupational Medicine.

The Health Activities Committee met on February 16th and the topic of the month - Allergy was presented. Material on this subject was prepared for distribution throughout the plant. The absentee rate has been slowly climbing during the past two years and in 1949 was up to 4.05 days lost per employee per year. Special emphasis was placed on at least holding the present absentee rate, which is about one-half the national average. Supervisors were encouraged to refer the chronically absent employee to industrial physicians in an effort to help some of the problem cases.

The absenteeism for sickness was 1.96% in February as compared to 2.23% in January.

There were no findings attributable to radiation to any employee during the month.

MEDICAL DIVISIONS

FEBRUARY 1950

<u>Physical Examinations</u>	<u>Jan. 1950</u>	<u>Feb. 1950</u>	<u>Year to date</u>
<u>Operations</u>			
Pre-employment.....	65	83	148
Rehire.....	40	52	92
Annual.....	450	474	924
Interval.....	544	520	1064
A. E. C.....	12	9	21
Recheck.....	132	166	298
Termination.....	48	36	84
Sub-total.....	<u>1291</u>	<u>1340</u>	<u>2631</u>
<u>Sub-contractors</u>			
Pre-employment.....	98	156	254
Rehire.....	179	756	935
Recheck.....	60	73	133
Termination.....	67	69	136
Transfer.....	0	0	0
Sub-total.....	<u>404</u>	<u>1054</u>	<u>1458</u>
Total Physical Examinations.....	1695	2394	4089
<u>Laboratory Examinations</u>			
<u>Clinical Laboratory</u>			
Government.....	84	0	84
Pre-employment, terminations, transfers..	2581	6218	8799
Annual.....	2319	2478	4797
Rechecks (Area).....	2864	2729	5593
First Aid.....	19	20	39
Clinic.....	2029	2596	5325
Hospital.....	3077	2793	5870
Public Health.....	47	16	63
Total.....	<u>13620</u>	<u>16950</u>	<u>30570</u>
<u>X-Ray</u>			
Government.....	9	0	9
Pre-employment, terminations, transfers..	391	1083	1474
Annual.....	400	507	967
First Aid.....	76	101	177
Clinic.....	217	211	428
Hospital.....	195	196	391
Public Health.....	9	9	18
Total.....	<u>1357</u>	<u>2107</u>	<u>3464</u>
<u>Electrocardiographs</u>			
Industrial.....	50	77	127
Clinic.....	3	1	4
Hospital.....	30	26	56
Total.....	<u>83</u>	<u>104</u>	<u>187</u>

MEDICAL DIVISIONS

FEBRUARY 1950

<u>Allergy</u>	<u>Jan. 1950</u>	<u>Feb. 1950</u>	<u>Year to date</u>
Skin Tests.....	26	16	42
<u>First Aid Treatments</u>			
<u>Operations</u>			
Occupational Treatments.....	418	303	721
Occupational Retreatments.....	1274	1353	2627
Non-occupational Treatments.....	3579	2876	6455
Sub-total.....	<u>5271</u>	<u>4532</u>	<u>9803</u>
<u>Construction</u>			
Occupational Treatments.....	51	81	132
Occupational Retreatments.....	107	266	373
Non-occupational Treatments.....	44	86	130
Sub-total.....	<u>202</u>	<u>433</u>	<u>635</u>
Total First Aid Treatments.....	5473	4965	10438
<u>Major Injuries</u>			
General Electric.....	0	1	1
Subcontractors.....	2	1	3
Total.....	<u>2</u>	<u>2</u>	<u>4</u>
<u>Sub-major Injuries</u>			
General Electric.....	7	2	9
Subcontractors.....	0	3	3
Total.....	<u>7</u>	<u>5</u>	<u>12</u>
<u>Absentecism</u>			
Weekly employees, all causes.....	2.84%	2.44%	2.64%
Weekly employees, sickness only.....	2.23%	1.96%	2.09%
Total days lost by males due to sickness.	2109	1525	3634
Total days lost by females due to sickness	1120	752	1872
Total days lost due to sickness.....	3229	2277	5506
<u>Investigation:</u>			
Total calls requested.....	28	15	43
Total calls made.....	28	15	43
No. absent due to illness in family....	0	0	0
No. not at home when call was made.....	3	0	3

MEDICAL DIVISIONS

FEBRUARY 1950

Villago Medical Division

General

Medical Divisions' roll decreased from 362 to 361. The average daily adult hospital census decreased from 75.0 to 74.0, as compared to 112.2 a year ago. The figure for a year ago includes both Kadlec and North Richland Hospital.

Ratio of hospital employees to patients for the current month is 2.34.

Nursing hours per patient day:

Medical, Surgical, Pediatrics..... 3.43
 Obstetrical..... 5.73

Clinic visits increased from 5482 to 5506, which is a 0.4% increase as compared to the previous month, and 43.8% below a year ago. North Richland medical center accounted for 3.1% of the total clinic visits this month.

The net expense of the Richland community medical program for January, 1950 was \$6,504. as compared to \$9,309. for December, 1949. Breakdown is as follows:

Kadlec Hospital net expenses

This is an increase of \$2,158. over December, 1949, due primarily to: (1) a decrease in services to Industrial Medical by the Clinical Laboratory and X-Ray Departments; (2) the elimination of salary charges on an intra-division basis to Industrial Medical of 35% of salary costs of delivery room, obstetrical ward, physical therapy, operating room and anesthesia on a standby basis.

Clinic net expense

This is a decrease of \$5,463. as compared to December, 1949, due primarily to increased revenues.

<u>Clinic Visits</u>	<u>Jan. 1950</u>	<u>Feb. 1950</u>	<u>Year to date</u>
Medical.....	1062	1094	2156
Pediatrics.....	670	728	1398
Surgical.....	611	644	1255
Gynecological.....	373	437	810
Obstetric (new).....	68	66	134
Obstetric (recheck).....	705	673	1378
Venereal Disease.....	15	43	58
Ear, Nose, Throat.....	300	301	601
Eye.....	201	258	459
Visits handled by nurses.....	724	573	1297
Night clinic visits.....	723	689	1412
Total.....	5482	5506	10988
Average clinic visits per day.....	211	229	220

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MEDICAL DIVISIONS

FEBRUARY 1950

<u>Source of Richland Clinic Visits</u>	<u>Jan. 1950</u>	<u>Feb. 1950</u>	<u>Year to date</u>
Richland.....	93.0%	90.7%	91.9%
North Richland.....	2.7%	3.6%	3.2%
Other.....	4.3%	5.7%	5.0%

Home Visits (Pay Cases)

Doctors.....	592	365	957
Nurses.....	476	311	787
Total.....	1068	676	1744

Kadlec Hospital
Census

Admissions - Adults.....	438	380	818
Patient Days: Adults.....	2345	2071	4416
Infants.....	363	327	690
Total Patient Days.....	2708	2398	5106
Average Stay: Adults.....	5.4	5.4	5.4
Infants.....	5.6	5.4	5.5
Average Daily Census: Adults.....	75.0	74.0	74.5
Infants.....	11.7	11.7	11.7
Total Average Daily Census.....	86.7	85.7	86.2
Discharged against advice.....	3	2	5
One-day cases.....	63	39	102
Occupancy Percentage: Adults.....	85.1%	83.2%	84.1%
Infants.....	146.2%	146.2%	146.2%
Admission Source: Richland.....	84.3%	82.1%	83.2%
North Richland.....	5.9%	6.1%	6.0%
Other.....	9.8%	11.8%	10.8%
Admissions by employment: General Electric.....		78.5%	
Government.....		2.6%	
Facility.....		2.9%	
Subcontractors.....		4.7%	
Schools.....		1.3%	
Others.....		10.0%	

Surgery

Major.....	76	70	146
Minor.....	68	65	133
Eye, Ear, Nose, Throat.....	54	35	89
Transfusions.....	37	64	101
Dental.....	0	3	3

Vital Statistics

Deaths.....	4	2	6
Live Births.....	63	60	123
Still Births.....	2	0	2

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MEDICAL DIVISIONS

FEBRUARY 1950

<u>Physiotherapy Treatments</u>	<u>Jan. 1950</u>	<u>Feb. 1950</u>	<u>Year to date</u>
Clinic.....	71	37	108
Hospital.....	65	57	122
Industrial: Plant.....	146	280	426
Personal.....	18	45	63
Total.....	<u>300</u>	<u>419</u>	<u>719</u>
 <u>Pharmacy</u>			
No. of prescriptions filled.....	2862	2540	5402
 <u>Patient Meals</u>			
Regulars.....	3168	2975	6143
Specials.....	1020	818	1838
Lights.....	74	37	111
Softs.....	2059	1717	3776
Tonsils & Adenoids.....	137	77	214
Liquids.....	136	163	299
Surgical Liquids.....	67	65	132
Total.....	<u>6661</u>	<u>5852</u>	<u>12513</u>
 <u>Cafeteria Meals</u>			
Noon.....	1934	1480	3414
Night.....	276	261	537
Total.....	<u>2210</u>	<u>1741</u>	<u>3951</u>

Public Health Division

General

There was a slight increase in the number of communicable diseases reported; however, a decrease of 48% in morbidity home visits was noted.

Special educational services for the spastic child and other orthopedic conditions will start next month in the Richland Schools.

The Mental Health Program series was completed during the month. A committee was selected to give further thought and study to the merits of a Mental Hygiene Society in this community, or to apply for active membership in the Richland Health Council.

One restaurant and one fountain were issued permits and Grade A placards. Eleven Grade A and two Grade B establishments are now in operation. Four of the Grade A establishments have been given time limits of three weeks to complete necessary improvements. Failure to do so will result in lowering of the respective grade.

Mosquito control operations will commence in early March.

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MEDICAL DIVISIONS

FEBRUARY 1950

<u>Administration</u>	<u>Jan. 1950</u>	<u>Feb. 1950</u>	<u>Year to date</u>
Newspaper Articles.....	6	15	21
Committee Meetings.....	7	0	7
Attendance.....	52	0	52
Staff Meetings.....	4	4	8
Lectures & Talks.....	7	9	16
Attendance.....	517	511	1028
Conferences.....	13	37	50
Attendance.....	48	128	171
Radio Broadcasts.....	0	0	0
 <u>Immunizations</u>			
Diphtheria.....	193	288	481
Influenza.....	1	0	1
Smallpox.....	39	75	114
Tetanus.....	48	0	48
Typhoid.....	1	0	1
Vollmer Patch Test.....	3	3	6
Total.....	<u>285</u>	<u>366</u>	<u>651</u>
 <u>Social Service</u>			
Cases carried over.....	88	97	185
Cases admitted.....	22	22	44
Total.....	<u>110</u>	<u>119</u>	<u>229</u>
Cases closed.....	13	21	34
Remaining case load....	<u>97</u>	<u>98</u>	<u>195</u>
 Sources of referral:			
Public Health.....	2	4	6
Doctors.....	13	9	22
Interested Person.....	2	3	5
School.....	2	1	3
Personal Application.....	2	2	4
Other Agency.....	1	2	3
Miscellaneous.....	0	1	1
Total.....	<u>22</u>	<u>22</u>	<u>44</u>
 <u>Sanitation</u>			
Inspections made.....	207	169	376
 <u>Bacteriological Laboratory</u>			
Treated Water Samples.....	171	155	326
Milk Samples (Inc. cream and ice cream)..	65	70	135
Other bacteriological tests.....	248	229	477
Total.....	<u>484</u>	<u>454</u>	<u>938</u>

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MEDICAL DIVISIONS

FEBRUARY 1950

<u>Communicable Diseases</u>	<u>Jan. 1950</u>	<u>Feb. 1950</u>	<u>Year to date</u>
Chicken Pox.....	19	15	34
German Measles.....	6	24	30
Gonorrhea.....	0	1	1
Measles.....	1	0	1
Mumps.....	0	1	1
Pinkeye.....	1	0	1
Ringworm.....	1	0	1
Roseola.....	1	0	1
Scabies.....	2	1	3
Scarlet Fever.....	12	9	21
Syphilis.....	0	6	6
Tuberculosis.....	0	1	1
Whooping Cough.....	0	2	2
Total.....	<u>43</u>	<u>60</u>	<u>103</u>
Total No. Nursing Field Visits.....	1056	739	1795

Dental Division

General

Dental visits were 2% less than the previous month, and 39% below the figure for a year ago.

Patients treated.....	2452	2404	4856
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MEDICAL DIVISIONS

PERSONNEL SUMMARY

February 28, 1950

	TOTAL	1100 Area					3000 Area		Outlying Areas						
		Administration	Industrial	Clinic	Hospital	Public Health	Clinic	Public Health	100-B	100-D	100-F	100-H	200-E	200-F	300
Physicians	29	2	5.8	16	1	1	1		.3	.3	.2	.3	.2	.5	.4
Dentists	10			9			1								
Nurses **	106	2	9	11	51	10	1	1	1	4	4	1	4	5	2
Anesthetists	3				3										
Nurse Aides *	31		1	2	27	1									
Ord.-Amb. Driver	6				6										
Tech.-Dent. Hyg.	1			1											
Tech.-Clin. Lab.	15				11.4				.4	.4	.4	.4	.4	.8	.8
Tech.-X-Ray	4				4										
Tech.-Bact. Lab.	1				1										
Tech.-Phys. Ther.	1				1										
Secretary	2	2													
Cler. Wk. Leader	2	1			1										
Steno.-Typist	9	3	2		2	2									
Off. Mach. Oper.	3	2	1												
Telephone Oper.	4	4													
General Clerk	62	20	18	9	10	1			.5	.5	.5	.5	.5	.5	1
Pharmacist	4				4										
Dietitian	2				2										
Cook	5				5										
Kitchen Worker	10				10										
Soc. Serv. Couns.	3					3									
Sanitarian	3					3									
Health Educator	1					1									
Dental Asst.	9			8			1								
Janitors	16	1	4.9	2.8	6.6	.7									
Bacteriologist	2				2										
Records Supv.	2	2													
Acctg. Supv.	3	3													
Admin. & Assts.	3	3													
Others	9			3	6										
Total	361	45	41.7	61.8	154.0	22.7	4	1	2.2	5.2	5.1	2.2	5.1	6.8	4.2

* Two nurse aides working part time.
 ** Two nurses working part time.

Number of employees on payroll:
 Beginning of month 362
 End of month 361
 Net decrease 1

DECLASSIFIEDHEALTH INSTRUMENT DIVISIONSFEBRUARY, 1950Summary

The force increased by two. No Special Hazards Incident investigations occurred.

Considerable progress was made in P-10 hazard detection and evaluation through joint intradivisional effort during this period. Surveys by the Operational Division showed no major deviations from normal practices nor any above normal personnel exposures.

Routine air, water, and vegetation samples obtained through Development Division control activities showed the normal pattern of activity distribution. Bioassay of urine samples for plutonium showed no confirmed positive results. A maximum result of 130 $\mu\text{g/liter}$ of uranium was obtained. Seven percent of the urine samples analyzed for P-10 were above the detectable limit. Four of these came from one individual.

Biology Division work proceeded satisfactorily. Analytical work on two-year old algae from the 107-F basin showed unexpected presence of Pm^{147} .

Health Instrument Divisions

DECLASSIFIEDHEALTH INSTRUMENT DIVISIONSFEBRUARY, 1950Organization

The composition and distribution of the force as of 2/28/50 was as follows:

	<u>100-B</u>	<u>100-D</u>	<u>100-F</u>	<u>100-H</u>	<u>200-E</u>	<u>200-W</u>	<u>300</u>	<u>700</u>	<u>P.G.</u>	<u>Total</u>
Supervisors	1	1	6	2	2	9	13	5	0	39
Engineers	4	3	16	4	11	15	9	4	0	66
Clerical	0	0	1	1	1	2	4	4	0	13
Others	9	15	37	11	29	64	57	10	8	240
Total	14	19	60	18	43	90	83	23	8	358

Number of Employees on PayrollFebruary 1950

Beginning of month	356
End of month	<u>358</u>
Net increase	2

Additions to the roll included six clerks, an inspector, and one laboratory assistant. Removed from the roll were a group head (physics), two engineers (assignment), a technical graduate, and two laboratory assistants.

General

Promethium 147 activity was second only to Iron 59 activity in the long-lived constituents of algae exposed in pile effluent basins. It is important to determine whether this came from escaping fission product activity or from the decay of neodymium activated in passage of water through pile tubes.

No investigation of special hazards incidents was required.

The following trips were reported:

1. KE Herde and RF Foster - consultation with Dr. LR Donaldson, and inspection of Biology facilities, at U. of Washington.
2. HM Parker - Schenectady, Laboratory Directors meeting, Washington, D.C., Argonne National Laboratory, Chicago.

Dr. ME Ensminger visited the experimental animal farm, and Mr. P. Persiani (ANL) examined the liquid waste disposal studies.

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Health Instrument Divisions

DECLASSIFIED

During the period covered by this report, all persons in the Health Instrument Divisions engaged in work which might reasonably be expected to result in inventions, or discoveries, advised that to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work except as listed below. Such persons further advised that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible inventions or discoveries.

<u>Inventor</u>	<u>Title</u>
None	None

Health Instrument Divisions

DECLASSIFIED

OPERATIONAL DIVISION

100 Areas

General Statistics

	<u>January</u>					<u>February</u>					<u>1950 To Date</u>
	<u>B</u>	<u>D</u>	<u>F</u>	<u>H</u>	<u>Total</u>	<u>B</u>	<u>D</u>	<u>F</u>	<u>H</u>	<u>Total</u>	
Special Work Permits	738	563	909	468	2,678	742	889	654	340	2,625	5,303
Routine & Special Surveys	525	400	427	446	1,798	492	339	356	333	1,520	3,318
107 Effluent Surveys	95	93	89	105	382	80	100	61	85	326	708
Air Monitoring Samples	99	75	76	193	443	52	80	73	298	503	946

Retention Basin Effluent

The activity of the water leaving the retention basin was as follows:

	<u>100-B</u>	<u>100-D</u>	<u>100-F</u>	<u>100-H</u>
Power Level (MW)	275	305	305	330
Average beta dosage-rate (mrep/hr)	1.1	2.3	1.2	1.1
Average gamma dosage-rate (mr/hr)	1.9	1.2	2.4	2.0
Average total dosage-rate (mrep/hr)	3.0	3.5	3.6	3.1
Average integrated dose in 24 hrs. (mrep)	72	84	86	74
Maximum integrated dose in 24 hrs. (mrep)	84	101	108	91
Maximum integrated dose in 24 hrs. (mrep) 1950	84	101	108	91

100-B Area

Pile and Associated Buildings

Radio-active gas was found in the 105 Building valve pit and was caused by the sudden closing of the No. 8 exhaust damper. The condition was readily corrected by opening the damper and the miscellaneous storage area doors. A lock mechanism will be installed on this damper to prevent recurrence. Active gas was found in the inner instrument room due to leaks in the lines. Air contamination due to effluent vapors continued to be prevalent in some of the sample rooms.

The gamma radiation in the beam at the top, far edge of the pile was about 15 mr/hr. There was some indication of slow neutrons in this beam.

P-10 Operations - 108 Building

An experimental survey instrument for detecting contamination was demonstrated.

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Health Instrument Divisions

DECLASSIFIED

during the latter part of the month. Surveys of smears taken in the hood room, on operators' shoes and clothing and at other locations showed general contamination which was presumed to be P-10 oxide. Previous surveys with the Portable GM and Zeuto instruments showed no contamination. Considerable progress was made in sampling techniques and procedures. A method of drawing a known volume of air through a dessicant and recovering the P-10 oxide was developed. Methods of capturing moisture from breath samples using dry ice is currently being explored.

Four operators washed their hands in a solution of alcohol and soap and collected the washes for analysis. Three showed no significant results and the fourth showed a result of 2.25 μc P-10 oxide/liter.

100-D Area

High level contamination was encountered in the discharge area during the removal of process tubes and the subsequent sampling of graphite from the tube channels. An air sample taken during the cutting of one of the tubes showed a beta concentration of 1.5×10^{-4} μc /liter at 10 feet from the tube. Masks were worn throughout all the work.

Two vertical safety rod thimbles were replaced. Contamination and personnel exposure control was good. Sections of the thimbles were transported to the burial trench, and it was necessary to enlarge the Danger Zone limits outside of the fence until such time as the sections could be covered with dirt.

The rod guide for Vertical Safety Rod No. 20 was removed from the pile and a shield installed. After the power level reached 305 MW, entry on the top of the unit was severely restricted due to radiation scattered from this shield. Additional shielding was placed around the bumper plate assembly on the subsequent shutdown and all dosage-rates appreciably reduced.

Air contamination due to effluent water vapors continued to be prevalent in the water sample rooms. The maximum air sample taken showed 2.3×10^{-4} μc /liter.

The gamma dosage-rate in the beam at the top, far edge of the pile decreased to about 1.5 roentgens per hour from about 2.5 roentgens per hour reported last month. A slow neutron flux of about 40 mrem/hr was observed in the beam.

100-F Area

Four irradiated metal pieces were broken under water for examination and study by members of the Pile Technology Division. No unusual exposure rates were encountered. Water samples showed no indication of spread of contamination from this work.

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The rod and rod tip of Vertical Safety Rod. No. 19 were removed from the pile due to a leaking thimble and the thimble plugged and shielded prior to startup. However, shielding was inadequate and the entire top of the unit was restricted. Increased radiation fluxes were reported in the discharge elevator machinery room as well as on the front face of the pile due to scattered radiation from the shield.

A gas leak in the base seam of the pile resulted in spread of active gas to the work area. Air contamination due to effluent water vapors was similar to that reported in the other areas. No additional readings in the beam at the top, far edge of the pile were taken during the month due to the high dosage-rates in this area.

100-H Area

Gas leaks were still prevalent along the base seam of the pile in the reactor development room and the near side of the front face. Air contamination from effluent vapors was found in the sample rooms, in the reactor development room, in the discharge elevator machinery room, tool dolly machinery room, gas instrument room, and the No. 1 experimental level. Appreciable neutron fluxes were observed in the decontamination room at the reactor development holes, but were substantially reduced when the steel doors were closed across the holes.

Installation of shields over the vertical "T" seams on the No. 1 experimental level was completed and the shield proved effective. Considerable neutron leakage is evident at the experimental holes, but is below the daily permissible level five feet from the pile face.

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200 Areas, T and B Plants

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General Statistics

	January			February			1950 To Date
	T	B	Total	T	B	Total	
Special Work Permits	275	253	528	300	331	631	1,159
Routine & Special Surveys	417	136	853	434	492	926	1,779
Air Monitoring Samples	414	681	1095	343	781	1324	2,419
Thyroid Checks	65	66	131	106	75	181	312

Air Sample Results

Location	No. Taken	Number above		Maxima		Remarks
		10 ⁻¹² µg Pu/cc	10 ⁻⁷ µc f.p./liter	10 ⁻⁹ µg Pu/cc	10 ⁻⁴ µc f.p./liter	
T Plant Canyon	224	***94	216	1x10 ⁻⁹	5x10 ⁻⁴	Crane work, Sec.15
221 Galleries	123	9	4	2.4x10 ⁻¹²	4.3x10 ⁻⁷	Sec.18, Oper. Gallery
R-13 Changehouse	48	13	10	5x10 ⁻¹⁰	5.4x10 ⁻⁶	Positive pressure in canyon.
222	69	11	4	3x10 ⁻¹¹	2x10 ⁻⁷	Room 7.
224	76	7	4	7x10 ⁻¹¹	1.8x10 ⁻⁷	Unloading & jetting at F-10 cage.
Others	***3	-	2	< 10 ⁻¹¹	4.5x10 ⁻⁷	Samples at 101-U tank.
B Plant Canyon	120	***18	77	3.8x10 ⁻⁸	3.6x10 ⁻⁶	Jetting, blocks off Sect.19
221 Galleries	303	18	7	9.5x10 ⁻¹¹	7.6x10 ⁻⁷	Sec.13 Pipe Gallery
R-13 Changehouse	40	2	0	1.8x10 ⁻¹²	---	Extremely high airborne activity in canyon. Carrier Units frozen up.
222	95	2	36	*2.3x10 ⁻¹¹	5.7x10 ⁻⁷	**Mens' locker room
224	195	2	0	1.5x10 ⁻¹²	--	**Room 7 F Oper. Gallery
Others	28	1	1	1.9x10 ⁻¹²	1.5x10 ⁻⁷	224-B roof near water tower

***Sensitivity limit 10⁻¹¹ µg Pu/cc

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DECLASSIFIEDCanyon Buildings

In the T Plant, gross canyon deck and paper contamination occurred from sections nine through thirteen as a result of considerable cell crane work. Short time limits were imposed during cleanup operations of this contamination and during unplugging of a jet assembly at section 18. Monitoring assistance was required during sampling on five occasions. Contamination was found to be rather general over the 75 ton crane bridge and the craneway. A door was installed at the inner stairwell of R-13 in an effort to keep canyon air out of the R-13 change house.

In the B Plant, considerable contamination was expected and occurred during the removal of a specific gravity dip tube. Cleanup and decontamination was quite effective except for a few cell cracks where the contamination evidently washed down and was not readily removed. Unusual air conditions were experienced and contamination found in the Operating and Pipe Galleries. This was attributed to unusually high airborne contamination in the canyon coincident with frozen carrier units. Installation of ten sampling positions from Section 4L through 14L were completed in the Operating Gallery and permit the remote sampling of canyon air. Close comparison was found between these samples and samples taken in the canyon proper.

Control Laboratories

	<u>T Plant</u>	<u>B Plant</u>
Items contaminated and not regulated	196	138
Skin contamination, alpha	0	2
Skin contamination, beta	0	2
Contaminated floor locations	26	47

In the B Plant, hand contamination occurred when a rubber glove was punctured, but no injury was experienced and the contamination was readily removed. A ground cave-in occurred near the laboratory contaminated dry waste pit and was promptly backfilled preventing drainage of any large amount of surface water into this area.

Concentration Buildings

In the T Plant, nine maintenance repair jobs were completed with contamination confined to the work area and protective clothing. Routine cell surveys showed an estimated 25 μg Pu in C Cell and 58 μg Pu in E Cell.

In the B Plant, air sampling at the roof vents was resumed as weather permitted. Several minor maintenance jobs were completed with excellent contamination control.

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Stack Areas

In the T Plant, large amounts of water were found in the inlet and outlet by-

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DECLASSIFIEDAir Sample Results

<u>Location</u>	<u>Number Taken</u>	<u>Number Above 10^{-12} $\mu\text{g Pu/cc}$</u>	<u>Maximum $\mu\text{g Pu/cc}$</u>	<u>Remarks</u>
Operating Cells	194	13	2.3×10^{-11}	Cell 4 - Routine
Control Laboratory	153	30	1.4×10^{-9}	SWP - Room 34
Development Laboratory	8	0	$< 10^{-12}$	-
Ducts	9	4	4.6×10^{-12}	-
Others	35	-	$< 10^{-11}$	-

Building Surveys

	<u>Operating Cells</u>	<u>Control Laboratory</u>
Items not regulated found contaminated	13	92
Number above 20,000 d/m	0	0
Skin Contamination	0	0
Floor contamination locations	0	8

Maximum levels of gamma radiation reported were 20 mr/hr on PR containers, 3 mr/hr at process hoods, and 5 mr/hr on S.C.

234-5 BuildingGeneral Statistics

	<u>January</u>	<u>February</u>	<u>1950 To Date</u>
Special Work Permits	158	169	327
Routine & Special Surveys	321	369	690
Air Monitoring Samples	1016	1246	2262

Air Sample Results

<u>Location</u>	<u>Number Taken</u>	<u>Number Above 10^{-12} $\mu\text{g Pu/cc}$</u>	<u>Maximum $\mu\text{g Pu/cc}$</u>	<u>Remarks</u>
234 Operating Section	253	101	1.7×10^{-8}	SWP Work - inside Hood 6 plywood airlock.
235 Operating Section	211	7	1.3×10^{-9}	Glove change Hood 22.
Technical Control	263	36	2.9×10^{-11}	Leaking drain-contamination in Room 143.
General	361	7	1.9×10^{-12}	
Ducts after primary filter	66	45	2.7×10^{-9}	234 Process Hoods.
26 inch vacuum line	22	22	9.4×10^{-10}	--
10 inch vacuum line	22	0	$< 10^{-12}$	--
Stack Breech	48	0	$< 10^{-13}$	--

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DECLASSIFIED234 Building - Operating Section

Eight incidents of contamination spread occurred within process rooms with an associated 29 floor spots found in adjacent corridors and rooms. One instance of skin contamination occurred and was readily cleaned. Ten major maintenance jobs involving work in Zone IV or on process lines were completed with contamination generally confined to the work area and protective apparel.

235 Building - Operating Section

Contamination was well controlled with no contamination spread in the process rooms or detection of contamination in adjacent corridors and rooms reported. One instance of skin contamination occurred and was successfully cleaned. One unusual incident occurred when the inlet filter of hood 14 was ignited during maintenance repair work and was finally extinguished by removal and submersion in water. No air or surface contamination was found as a result of the incident.

Control Laboratories

	<u>Number</u>	<u>Maximum (estimated)</u>
Items contaminated and not regulated	243	3.5 μg Pu on sample carrier
Skin contamination	4	.07 μg Pu
Laboratory floor contamination	29	7 μg Pu Room 149, leaking sink trap
Corridor floor contamination	26	.7 μg Pu

A near serious incident occurred during work in a dry box in Room 134 when a glass sliver caused a puncture wound of the finger. No contamination was found on the glove or skin.

General Building

Five items, not regulated with respect to handling, were found contaminated, with a maximum of about 1.6 μg Pu reported on a Peppy in the Instrument Shop.

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DECLASSIFIEDThe 300 AreaGeneral Statistics

	<u>January</u>	<u>February</u>	<u>1950 To Date</u>
Special Work Permits	178	160	338
Routine & Special Surveys	184	226	410
Air Samples	130	177	307

Metal Fabrication Plant

Fifty-seven of eighty-nine air samples taken were above 5×10^{-5} $\mu\text{g U/cc}$ as follows:

<u>Location</u>	<u>Number Taken</u>	<u>Number above 5×10^{-5} $\mu\text{g U/cc}$</u>	<u>Maximum Conc. $\mu\text{g U/cc}$</u>	<u>Conditions</u>
Chip Recovery	22	17	4.1×10^{-3}	Floor being swept.
Railroad cars	5	4	2.0×10^{-4}	Unloading rods.
Furnace room	1	1	1.2×10^{-4}	"A" Furnace operating.
Burn-out room	1	0	2.0×10^{-5}	Not operating.
Out-gassing furnace	1	1	1.8×10^{-4}	Air blowing through furnace.
Straightener	11	8	2.6×10^{-4}	Straightening "Pb" dipped rods.
314 Main room	18	5	5.0×10^{-4}	Extruding.
Miscellaneous	30	21	3.2×10^{-4}	Hand count station - Extruder operating.

In Building 314, the extruder was operated for a short period requiring respiratory protection throughout the building. It was also necessary to impose a one hour time limit for the quenching operator due to the proximity of banks of rods.

Air samples taken during the unloading of oil treated rods indicated a substantial reduction in air contamination during this operation as compared with untreated rods. Ten high hand counts were all successfully reduced.

Associated Laboratories

Alpha contamination was reported on enclosed shipping papers and source buckets during the uncrating and canning of ten one-quarter gram Ra-Be sources. One high hand count was reported and no attempted reduction shown.

Technical Building

Continuous H.I. monitoring was provided during the removal of dry waste and

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during sampling of sludge from a 200 Area waste tank. A total of fifty-six air samples was taken with a maximum of 3.8×10^{-11} μg Pu/cc reported, this was obtained in Room 55 during the removal of a hood. There were nine high hand scores recorded, all of which were reduced.

Cold Semi-Works Building

A total of thirty air samples was taken and all were below 5×10^{-5} μg U/cc.

Fifteen high hand scores were recorded and all were reduced. About 1,495 pounds of uranium have been discharged to the waste ponds and about 273 pounds to the 300 N crib.

Hand Score Summary

A total of 37,045 alpha and 39,402 beta hand scores was recorded. About 0.08% of the alpha and about 0.09% of the beta scores were high. Seventy per cent of the high beta scores were recorded in the 100 Areas.

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PERSONNEL METERS

Pencils

	<u>100-B</u>	<u>100-D</u>	<u>100-F</u>	<u>100-H</u>	<u>E&N 200</u>	<u>200-W</u>	<u>300</u>	<u>Total</u>	<u>1950 To Date</u>
Pencils Read	8,911	9,539	13,226	9,171	16,097	24,214	32,977	114,135	237,302
Single Readings (100 to 280 mr)	16	15	31	10	25	49	60	206	417
Paired Readings (100 to 280 mr)	1	1	0	0	0	1	0	3	9
Single Readings (Over 280 mr)	10	11	15	21	26	37	74	194	377
Paired Readings (Over 280 mr)	0	0	0	0	0	0	1	1	4
Paired Readings Lost	0	2	0	0	0	0	1	3	8

No significant pencil result was confirmed by the badge result. Investigation of lost readings indicated no possibility of an overexposure.

Badge Resume, Construction Areas

	<u>200-W Redox</u>	<u>100-DR</u>	<u>Total</u>	<u>1950 To Date</u>
Badges Processed	110	1,582	1,692	2,795
Number Readings (100 to 300 mrep)	0	0	0	0
Number Readings (Over 300 mrep)	0	0	0	0
Lost Readings	0	1	1	4

The lost reading was due to badge lost in area.

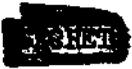
Badges

	<u>100-B</u>	<u>100-D</u>	<u>101-P 100-F</u>	<u>100-H</u>	<u>200-E</u>	<u>R.R.T. 200-N</u>	<u>200-W</u>	<u>300</u>	<u>Total</u>	<u>1950 To Date</u>
Badges Processed	1,606	1,911	2,326	1,762	1,910	496	3,415	5,864	19,290	38,844
Number Readings (100 to 300 mrep)	2	8	18	6	26	0	38	144	242	480
Number Readings (Over 300 mrep)	0	0	0	0	0	0	1	1	2	11
Lost Readings	0	2	2	2	0	0	0	1	7	11

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Investigation of the two badge results above 300 mrep showed that one was a defective film and the other, a reading of 535 mrep, occurred in the Metal Fabrication Plant covering a period of thirteen days.

Lost readings were accounted for as follows:

Badges lost in area	2
Recovered lost badge	1
Film packet lost in area	1
Stuck film	2
Lost in processing	1

Investigation of the above lost readings revealed no possibility of an overexposure.

Total badges processed 1950, Operations	38,844
Construction	<u>2,795</u>
Total	41,639

In addition to the badge program, a total of 2,202 items of non-routine nature was processed during the month. The 1950 total is 3,907.

Slow Neutron Pencil Summary

	<u>100-B</u>	<u>100-D</u>	<u>100-F</u>	<u>100-H</u>	<u>Total</u>	<u>1950 To Date</u>
Number of pairs issued	62	95	102	253	512	904
Number of significant readings	3	4	11	31	49	86
Number of significant readings (above 100 mrem)	0	0	0	0	0	0

All Health Instrument records stored in 303-F Building were moved to 3705 Building, and the 303-F Building returned to the "P" Division.

Badge and pencil coverage was provided for personnel working in the 101 Building at Hanford.

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DECLASSIFIEDCONTROL AND DEVELOPMENT DIVISIONSite Survey

Drinking water analyzed for alpha activity did not deviate from results of previous surveys. Beta activity from Na-24 averaged 163 and 65 $\mu\text{pc/liter}$ in samples taken from the Kennewick Highlands and from a Kennewick Standard Station. Small decreases in river activity were noted, resulting from a slight increase in the Columbia River flow.

Monitoring of radiation in air by fixed and ionization chambers remained normal. Measurement of active particles in the atmosphere did not deviate from last month's data at any locations except inside the 222-B laboratory where another small increase was noted; during February it was estimated that the average deposition rate of active particles was 0.47 particles/cubic meter.

Deposited activity on vegetation continued to decrease. I^{131} on vegetation at off-area locations including Ritzville, Ellensburg, Pasco, and Richland, approached a background level of 3 mpc/kg . Corresponding decreases on the vegetation at all locations were observed. The maximum activity from I^{131} measured during the past month was 460 mpc/kg sampled just outside the 200 West Area gatehouse.

With the cooperation of the H.I. Operational Division, a stack monitor for the P-10 project was set up in the 100-B Area. Samples are also being collected from the hood room in the P-10 Area. Formation of oxide in the P-10 furnace is being studied by sampling air directly from a thermocouple well of the furnace.

Geology

Activity levels in the two contaminated areas of the water table as measured in samples from wells 361-B-1, 361-B-9, and 241-T-361, remained at about the same levels as previously reported. A special analysis of a large sample from 241-T-361 indicated that most of the activity was due to ruthenium with small amounts of zirconium and rare earths. This analysis gave essentially the same result as a similar one taken from 361-B-1 during 1948.

The three wells adjacent to the 201-B crib, which receives the 224-B wastes, were cleaned out and deepened from 150 to 153 feet to determine if activity had penetrated to that depth. No activity was detectable on rough field checks, and the samples are now being analyzed in the laboratory. Well 224-B-4 which was originally drilled to water was also cleaned and deepened to 278 feet so that more nearly representative samples can be obtained.

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<u>Meteorology</u>	<u>Forecasts</u>	<u>Number Made</u>	<u>Percent Reliability</u>
	Production Forecasts	84	75.7
	24-hour forecasts	56	82.9
	Special forecasts	7	85.7

The average temperature for the month was 30.7 degrees which is 4.9 degrees below normal. This low figure was caused by the extreme cold on the first three days which averaged 12 degrees below zero. Minimum temperature on these three days were -23, -21, and -23 degrees. The maximum temperature was 63 degrees on the 25th. The range of 86 degrees between maximum and minimum was the greatest ever experienced at the Meteorology tower. Precipitation totaled 1.06 inches including 3.1 inches of snow.

Bioassay

During February, 512 urine samples were analyzed for plutonium. The average activity for the blank urine samples was 0.04 dis/min. The average yield for spiked urine samples was 86%. Six samples exceeded the detection limit of 0.33 dis/min; these are being resampled. The three high samples reported last month are still in process. During a short interval period in January, twelve sets of urine samples were not accepted because of a low yield on the spiked urine samples. The yields varied from 30% to 58%. No confirmed specific cause can be attributed to these particular low yields. The urine samples rejected are to be resampled. Contrary to previous preliminary investigations, it was found that varying quantities of urine salts in urine apparently affect the recovery yields. This effect is under further study. The current TTA procedure has been revised to cope with high salt content in urine by introducing a double lanthanum fluoride precipitation. Since the introduction of the re-precipitation step, yields averaged about 92%.

Four hundred and fifty-two urine samples were analyzed for beta emitters. Four samples were greater than the reporting level of 10 c/m and are being resampled.

One hundred and sixty-two urine samples were analyzed for uranium by the fluorophotometer method. The maximum individual result was 130 $\mu\text{g}/\text{liter}$ measured in a sample from an employee in the machining operation. Another sample containing 106 $\mu\text{g}/\text{liter}$ was taken from a member of the inspection operation.

One hundred and fifty-six urine samples were analyzed for the P-10 project. Eleven of these samples were above the background of the analysis, with four of the high samples coming from one individual. Analysis of a soap handwash indicated a value below background. However, an analysis of an alcohol handwash indicated 2.3 $\mu\text{c}/\text{liter}$. Analysis of the digested portion of a laboratory coat used in the laboratory indicated about 0.08 $\mu\text{c}/\text{sq. ft.}$ of laboratory coat; this value expressed in terms of the digested solution was 80 $\mu\text{c}/\text{liter}$.



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Methods Development

Attempts to electrodeposit plutonium uniformly on the end of a small steel rod 3/32 inches in diameter (surface area 4.5 sq. mm.) gave promising results but further work is needed for consistent results and higher yields. If this method of electrodeposition can be successfully applied, a greatly increased sensitivity for detection of plutonium by NTA film can be obtained. Preliminary data on use of the electrodeposition method for plutonium as set up in the Bioassay laboratory indicated yields on spiked samples slightly better than 80%.

Further work on developing techniques for track plate study continued. Small sources of tritium, S-35, and C-14 were exposed to NIB₂ film during a study of this film. Although cleancut tracks were observed for Pu²³⁹, questionable tracks or none at all were noted for the other isotopes with present developing techniques.

An experimental program has been started to evaluate the K⁴⁰ content of vegetation in this area. This will be evaluated by measuring the total potassium in various types of vegetation using a calibrated spectrophotometer.

Work continued on ether extraction analyses of air filter papers on a reduced scale as considerable counter difficulties were experienced the past month. Yields were somewhat lower than those obtained last month; there is no apparent assignable cause for the slight decrease in yields.

Methods Control

Preliminary studies indicated no fatigue effect on the low background alpha counters for activity below 20 dis/min. Better control methods to insure uniform operation of these counters are being initiated by adding additional control tests. The Tracerlab mica window tube under test indicated good operation within statistical counting errors. At counting rates up to 3500 c/m, negligible fatigue effects were observed; the effective geometry of this tube is slightly less than the standard mica window tubes used, and is directly an effect of a recessed window common in Tracerlab tubes.

Some revisions in the ether extraction of water samples for plutonium and uranium have resulted in more consistent analyses, although the yields have only increased slightly. A new procedure for water analysis has been tested, and results indicated 100% yields for alpha analysis, and about 90% yields for the beta analysis. This procedure is to be further tested by turning over this process on a limited scale to laboratory assistants. Investigation of analyses of 12-liter water samples revealed possibilities of gross contamination which could have accounted for occasional erratic results; the procedure was revised and recent data indicated a definite improvement. Investigation of inconsistent results by the fluorophotometer method indicated accumulation of moisture on the principal components of the unit; this is being corrected. A sample of

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water containing 1 uc/ml of tritium was received from Dr. Brues of the Argonne National Laboratory, and analyzed by the acetylene method. The results indicated that previously reported values were 76% of the standard. Results will be corrected by this amount in the future.

A summation of work performed follows:

<u>Laboratory</u>	<u>No. of Analyses</u>
Vegetation	980
Water	1,511
Solids	213
Fluorophotometer	422
P-10	156
Miscellaneous	86
Total	3,368
<u>Counting Room</u>	
Beta measurements	3,558
Alpha measurements	3,886
Control points	2,208
Decay curve points	1,082
Absorption curves	23
Total	10,757

Physics

Work is continuing on measurements with high pressure ionization chambers and with a lucite-moderated BF₃ counter. The latter is being used in attempts to study methods of measuring intermediate energy neutrons.

A possible method of making measurements on low energy beta radiation is being investigated. The process is that of counting the low energy X-rays produced by the beta rays with a thin window argon-filled geiger counter. The estimated efficiency is quite low, being of the order 0.01%, but it may be sufficient on concentrated samples.

Some measurements were made with step wedge absorbers of gold and aluminum to help determine whether beta or gamma radiation was causing the dark windows on film badges of workers in the 234-5 building. First results indicate a gamma ray with an energy of about 100 Kev or less.

Industrial Hygiene

A study was made of exposures to nickel carbonyl in the 234-5 building. This study included a survey of the process as well as sampling of the workroom atmosphere.

The study of general atmospheric contamination was completed with the exception

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of the analytical work on the most recently acquired samples. A report covering this study will be submitted when the data has been compiled and analyzed.

Instrument Development

A successful instrument for qualitative monitoring of surface contamination for the P-10 project was built following tests performed by the Methods group. The detector is a windowless methane flow proportional counter equipped with a gasket around the sensitive area to exclude air from the counting volume.

The combined alpha-beta proportional counter design and circuit work was completed, and one pilot instrument is being built. This instrument will measure either alpha or beta radiation from a sample without interference from the presence of the other.

Bismuth-coated screen cathode geiger counters were obtained for counting I¹³¹ deposited in sheep thyroids. They proved to be five times as efficient as copper wall tubes for counting these low-energy gamma rays. A limiting factor in extending the lower limit of detectable iodine will be the relatively high background of about 200 c/m per tube.

The high pressure ionization chamber was also used to check a sheep thyroid which contained an estimated one microcurie of I¹³¹. A reading of 7 x 10⁻¹³ amperes was obtained with an observed background of 2 x 10⁻¹³ amperes.

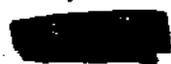
The portable BF₃ counter progressed to the construction stage. The counting rate meter was improved so that it was linear up to 100,000 c/m. When used with a special small counter it gave 0.7 c/m per nv.

Calibrations

<u>RADIUM CALIBRATIONS</u>	<u>Number of Routine Calibrations</u>		
	<u>January</u>	<u>February</u>	<u>1950 To Date</u>
Fixed Instruments			
Gamma	390	343	733
Portable Instruments			
Alpha	240	228	468
Beta	434	452	886
Gamma (Radium)	749	722	1,471
X-ray Scanning	3	3	6
Neutron	88	66	154
Total	1,514	1,471	2,985
Personnel Meters			
Beta	973	130	1,103
Gamma (Radium)	6,711	7,802	14,513
X-ray	6,412	3,306	9,718
Neutron	--	--	--
	<u>14,096</u>	<u>11,238</u>	<u>25,334</u>
GRAND TOTAL	16,000	13,052	29,052

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Health Instrument Division

DECLASSIFIEDBIOLOGY DIVISIONAnalyses Group1. Plutonium Analysis in Tissues

The required equipment for the analysis of the "chronically" fed rats has been purchased and assembled. Analyses will be started next month.

2. Adsorption of Plutonium on Surfaces

No progress.

3. Chromatographic Procedures

No progress.

4. Radioactivity in Carcasses

Methods for the chemical separation of Ra in a form suitable for counting are currently being investigated. Two methods are under study: The first involves the separation of the alkaline earths from the dissolved ash with a carbonate precipitation, followed by a separation of Ra from Ca with a Pb chromate precipitation in the presence of acetate ion and finally the removal of the lead carrier with H₂S. The second involves the separation of Ra from the alkaline earths with ion column techniques. Yields of approximately 60 per cent have been obtained with the first method. The second method has not been tested to completion.

5. Analyses of Active Particles

No progress

6. Composition of Effluent Water

Analytical work on a 2 year old algae sample from 107 F was started. Investigations indicate Fe-59, and Pm¹⁴⁷ are the prime contaminants. The finding of Pm¹⁴⁷ is new and unexpected. Unless fission products escaped into the 107 F basin in significant amount, it must have grown from the decay of Ni¹⁴⁷. This reaction does not appear to have been reported previously in the water.

7. Determination of Natural Background

No progress

8. Alpha and Beta Analyses of Organic Materials

Experimental work was done on three procedures for the analysis of I131 in

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Health Instrument Divisions

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sheep thyroid. A simple digestion in dilute NaOH followed by plating and counting gave the highest yields and most reproducible results.

The effect of excessive amounts of potassium on the rare earth analyses was investigated. Despite the possibility of a soluble potassium, rare earth fluoride salt, no loss was experienced.

The possible loss of Ru during wet ashing of vegetation was studied. Samples were investigated. Considerable loss was experienced indicating new methods are required. Investigations are continuing.

Aquatic Biology Group

1. Effect of Pile Effluent on Aquatic Life

The developmental rate of the chinook salmon fry in the monitoring test is increasing with slightly warmer water temperatures. A disease (presumably bacterial) continues to cause abnormally high mortalities in all groups, but fortunately has not reached the catastrophic proportions encountered on similar fish at the University of Washington and some other hatcheries in the state.

With the increased developmental rate the specific activities of the young fish have slightly increased. They are currently about 10 times that of the water. It was of interest to note that the specific activity of salmon fry in uncooled 5 per cent effluent was nearly twice as much as that in cooled effluent.

2. Biological Chains

Loss of appetite during cold weather by the yearling trout being held in 5 per cent effluent and fed a diet containing algae from the 107 Basin continues to depress the specific activity of these fish. Fish not receiving the contaminated diet are now less active by a factor of only 2.

3. Radiobiological Survey of the Columbia River

Field collection was inhibited during the first part of the month by ice along the shore line and fluctuating river levels, but was facilitated during the last part by lower water levels. The specific activity of the water and of all aquatic organisms sampled remained at approximately the same level as found during January. The highest specific activity found in fish was in the scales of a sucker (0.2×10^{-3} $\mu\text{c/g}$), while the highest among organisms collected was found in plankton (6.1×10^{-3} $\mu\text{c/g}$).

Health Instrument Divisions

DECLASSIFIED

Biochemistry Group

1. Collection and Analysis of Active Particles

A report is in process.

2. Deposition in Lungs of Active Particles

One rabbit is being exposed to stack gas inhalation.

3. Pathology of Active Particles

About 60 autoradiographs of frozen lung sections of 2 rabbits exposed to stack gas inhalation have been examined. The radioactive particles found range in size from 5 to 100 microns approximately. A few of these particles appear to be lodged in the alveoli, but the majority are present either in interstitial tissue or are off the tissue completely.

In order to avoid dislodging the radioactive particles from their original location, NTB stripping film and NTB slide will be used in future autoradiographs.

5. Gastro-intestinal Absorption of Plutonium

The oral administration of plutonium to 5 male and 5 female rats is proceeding without incident.

Botany Group

1. Separations Area Control Plot (200 East R-3 Danger Zone)

Arrangements have been made to grow Russian thistle and alfalfa plants in this area during the growing season of 1950.

2. Agricultural Field Station

Thirty soil samples taken from the treatment plots of the station averaged 2×10^{-7} $\mu\text{c/g}$.

The drilling of a well for control water was terminated at a depth of 607 feet.

3. Use of Algae for Removal of Radioactivity from Pile Effluent Water

The blue green algae Nostoc growing in liquid culture continues to disperse long half-life isotopes in pile effluent through the new growth.

Health Instrument Divisions

DECLASSIFIED

Escherichia coli grown on culture media which contains pile effluent (0.1 $\mu\text{c}/\text{cc}$) produce more than the normal number of dissociations or possibly mutant forms. This fact may be of significance in the ability of these micro-organisms to concentrate radio-active elements.

4. Translocation of Radioelements in Plants

In preliminary observations it was noted that oats, wheat and rye grown in liquid culture prepared from pile effluent concentrated activity from 5 to 50 times. Roots were about 2 to 6 times more active than plant tops.

Physiology Group

1. Physiological Response of Animals Intubated with Active Particles

Compilation of details of construction, air conditioning requirements and choice of subjects for the proposed project dealing with active particles is being continued.

2. Techniques in Autoradiography

NTB plates were demonstrated to be the material of choice for the autoradiography of thyroid sections containing I^{131} in amounts expected in local experiments.

A faint autoradiograph was obtained on sheep # 146, fed 0.5 microcurie $\text{I}^{131}/\text{day}$ for 160 days.

Preliminary data on the blood picture of normal sheep are being collected. Deviations from the normal human are not pronounced.

Zoology Group

1. Biological Monitoring

Recent surveys indicate that losses (presumably due to the cold wave) of quail at collection stations were greater than 50 per cent and at some locations may be near 100 per cent. Losses of rabbits, waterfowl and larger upland fowl were significant, but will not complicate adequate sampling.

2. Toxicology of I^{131}

Phase II (141-N waste disposal system) of the animal laboratories was accepted after changes were made in the design. With close attention the unit may give satisfactory service. Unless unforeseen difficulties arise the feeding of I^{131} will be started within the next 30 days.

Health Instrument Divisions

DECLASSIFIED

Routine procedures for feeding, bleeding, and thyroid counting of sheep have been developed and with some minor adjustments will be adopted. Suitable counting equipment for sheep in the higher feeding levels has not been completely developed.

Five hematological parameters and eight to twelve blood chemistry parameters will be routinely taken on the sheep.

Complete radioanalysis of thyroid tissue of the 180 lb. Hampshire ewe agreed very well with that of two similarly fed ewes sacrificed earlier. The equilibrium ^{131}I activity has been confirmed as very nearly five times the daily oral administration.

GENERAL ACCOUNTING DIVISION

FEBRUARY 1950

GENERAL

Considerable time was spent in the preparation of an Appendix C to the Prime Contract. This appendix covers in detail all employee benefit plans, and all policies relative to travel and living allowances. Methods of payment in connection with these plans and policies were covered together with the resultant reimbursement from the government.

Assistance was rendered to all General Divisions in the preparation of fiscal year 1952 budget estimates and revisions of 1951 estimates covering within-division, construction, research and development, and balance sheet budgets.

Hanford Works and Nucleonics Department Financial Statements for the month of January were completed and distributed on February 16, and February 21, 1950 respectively. General Divisions Operating Reports covering January operating costs were completed on February 15, 1950.

Advances from AEC remained at \$4,000,000 at the month end. Items comprising the balance in the advance account as of February 28, 1950 compared with those of January 31, 1950 are detailed below:

	<u>January 31</u>	<u>February 28</u>
Cash in Bank - Contract Accounts	\$ 3 178 952	\$ 3 465 716
Salary Accounts	55 000	50 000
Travel Advance Funds	50 000	50 000
Advances to Subcontractors	300 000	300 000
Cash in Transit	<u>416 048</u>	<u>194 284</u>
Total	<u>\$ 4 000 000</u>	<u>\$ 4 000 000</u>

General Accounting Division

STATISTICS

<u>Employees and Payroll</u>	<u>Total</u>	<u>Monthly Payroll</u>	<u>Weekly Payroll</u>
Employees on Payroll at beginning of month	7 434	1 633	5 801
Additions and transfers in	99	9	90
Removals and transfers out	(68)	(8)	(60)
Transfers from Weekly to Monthly Payroll	--	7	(7)
Transfers from Monthly to Weekly Payroll	--	(1)	1
Employees on Payroll at end of month	<u>7 465</u>	<u>1 640</u>	<u>5 825</u>
 <u>Employees on Payroll at end of month</u>		<u>January</u>	<u>February</u>
Manufacturing		3 174	3 170
Design and Construction		547	557
Community		731	728
Other		2 982	3 010
Total		<u>7 434</u>	<u>7 465</u>
 <u>Overtime Payments</u>			
Weekly Paid Employees		\$28 910	\$33 270
Monthly Paid Employees		2 291 (1)	4 818 (2)
Total		<u>\$31 201</u>	<u>\$38 088</u>
 <u>Number of Changes in Salary Rates and Job Classifications</u>		637	396
 <u>Gross Amount of Payroll</u>			
Manufacturing		\$1 116 720	\$1 099 254
Design and Construction		186 460	197 086
Community		231 033	223 443
Other		942 785	941 590
Total		<u>\$2 476 998 (3)</u>	<u>\$2 461 373 (3)</u>
 <u>Annual Going Rate of Payroll</u>			
Manufacturing		\$14 150 371	\$14 127 322
Design and Construction		2 391 787	2 492 219
Community		2 895 571	2 862 508
Other		11 859 744	12 030 548
Total		<u>\$31 297 473</u>	<u>\$31 512 597</u>
 <u>Average Salary Rate Per Hour (4)</u>		<u>January</u>	<u>February</u>
		<u>Weekly</u> <u>Monthly</u> <u>Total</u>	<u>Weekly</u> <u>Monthly</u> <u>Total</u>
Manufacturing		\$2.017 \$2.654 \$2.127	\$2.015 \$2.654 \$2.125
Design and Construction		1.561 2.748 2.048	1.578 2.726 2.021
Community		1.766 2.322 1.875	1.763 2.331 1.875
Other		1.638 2.527 1.846	1.637 2.544 1.849
Total		<u>\$1.817 \$2.582 \$1.983</u>	<u>\$1.813 \$2.587 \$1.981</u>

- (1) Payments cover period from 16th of previous month to 15th of current month except overtime payments to Design and Construction Division employees which cover period December 16, 1949 to December 31, 1949
- (2) Payments cover period from 16th of previous month to 15th of current month except overtime payments to Design and Construction Division employees which cover period January 1, 1950 to January 31, 1950
- (3) Includes 4 weeks in case of weekly paid employees
- (4) Includes shift differential and isolation pay. Excludes overtime premiums, commissions, Suggestion Awards, etc.

General Accounting Division

Employee Plans

Pension Plan

	<u>January</u>	<u>February</u>
Number participating at beginning of month	6 502	6 708
New participants and transfers in	179	41
Removals and transfers out	(33)	(31)
Number participating at end of month	<u>6 708</u>	<u>6 718</u>
% of eligible employees participating	93.4%	94.5%
<u>Employees Retired</u>	<u>February</u>	<u>Total to Date</u>
Number	2	114
Aggregate Annual Pensions Including Supplemental Payments	\$160	\$27 956*
Amounts contributed by employees retired	\$401	\$10 932
*Amount before commutation of pensions in those cases of employees who received lump sum settlement		

Group Life Insurance

	<u>January</u>	<u>February</u>
Number participating at beginning of month	5 808	5 796
New participants and transfers in	38	35
Cancellations	(17)	(23)
Removals and transfers out	(33)	(56)
Number participating at end of month	<u>5 796 (1)</u>	<u>5 752 (2)</u>
% of eligible employees participating	77.5% (1)	77.7% (2)

- (1) Excludes 34 pensioners who were granted lump sum pension settlement and who are paying premiums at Hanford Works
- (2) Excludes 36 pensioners who were granted lump sum pension settlement and who are paying premiums at Hanford Works

Group Life Insurance Claims

	<u>February</u>	<u>Total to Date</u>
Number of claims	1	37
Amount of insurance	\$3930	\$157 747

Group Disability Insurance (1)

Personal Coverage

	<u>January</u>	<u>February</u>
Number participating at beginning of month	36	27
New participants and transfers in	-0-	-0-
Cancellations	(7)	(7)
Removals and transfers out	-0-	-0-
Number participating at end of month	<u>29</u>	<u>22</u>

Dependent Coverage

Number participating at beginning of month	19	13
Additions and transfers in	-0-	-0-
Cancellations	(6)	(4)
Removals and transfers out	-0-	-0-
Number participating at end of month	<u>13</u>	<u>9</u>

General Accounting Division

Group Disability Insurance (1) (continued)

<u>Claims (2)</u>	<u>January</u>	<u>February</u>
Number of claims paid by insurance company:		
<u>Employee Benefits</u>		
Weekly Sickness and Accident	21	11
Daily Hospital Expense Benefits	23	13
Special Hospital Services	20	11
Surgical Operations Benefits	19	12
<u>Dependent Benefits Paid</u>		
Daily Hospital Expense Benefits	16	6
Special Hospital Services	16	6
Amount of Claims paid by insurance company:		
Employee Benefits	\$3 664	\$2 099
Dependent Benefits	645	502
Total	<u>\$4 309</u>	<u>\$2 601</u>
 <u>Premiums</u>		
<u>Personal - Employee Portion</u>		
- Employee Portion	\$ 49	\$ 37
- Company Portion	30	23
- Total	<u>\$ 79</u>	<u>\$ 60</u>
<u>Dependent- Employee Portion</u>		
- Employee Portion	\$ 12	\$ 8
- Company Portion	1	1
- Total	<u>\$ 13</u>	<u>\$ 9</u>
Grand Total	<u>\$ 92</u>	<u>\$ 69</u>

- (1) Group Disability Insurance Plan was discontinued November 30, 1949. January and February statistics cover employees who were participating in the Group Disability Insurance Plan but who were not actively at work on December 1, 1949, and therefore were not eligible to participate in the new Group Health Insurance Plan.
- (2) Statistics are for claims paid during the month and do not necessarily indicate that claims were incurred during the month.

Group Health Insurance (1)

<u>Personal Coverage</u>	<u>January</u>	<u>February</u>
Number participating at beginning of month	6 942	6 913
New participants and transfers in	39	31
Cancellations	(20)	(1)
Removals and transfers out	(48)	(52)
Number participating at end of month	<u>6 913</u>	<u>6 891</u>
 % of eligible employees participating	 93.5%	 94.0%
 <u>Dependent Coverage</u>		
Number participating at beginning of month	4 618	4 599
Additions and transfers in	23	21
Cancellations	(18)	(2)
Removals and transfers out	(24)	(23)
Number participating at end of month	<u>4 599</u>	<u>4 595</u>

General Accounting Division

Group Health Insurance (1) (continued)

<u>Claims (2)</u>	<u>January</u>	<u>February</u>
Number of claims paid by insurance company:		
Employee Benefits		
Weekly Sickness and Accident	49	64
Daily Hospital Expense Benefits	86	97
Special Hospital Services	96	103
Surgical Operations Benefits	49	64
Dependent Benefits Paid		
Daily Hospital Expense Benefits	123	181
Special Hospital Services	137	204
Surgical Operations Benefits	69	106
Amount of claims paid by insurance company:		
Employee Benefits	\$ 9 986	\$13 315
Dependent Benefits	12 404	18 912
Total	<u>\$22 390</u>	<u>\$32 227</u>
 <u>Premiums</u>		
Personal - Employee Portion	\$14 863	\$14 816
- Company Portion	7 162 (3)	7 139 (3)
- Total	<u>\$22 025</u>	<u>\$21 955</u>
Dependent- Employee Portion	\$12 877	\$12 866
- Company Portion	10 256 (3)	10 247 (3)
- Total	<u>\$23 133</u>	<u>\$23 113</u>
Grand Total	<u>\$45 158</u>	<u>\$45 068</u>

- (1) Group Health Insurance Plan was made effective December 1, 1945.
- (2) Statistics cover only claims paid and not all claims incurred during the month.
- (3) Gross company cost before dividend.

Vacation Plan

Number of employees granted permission to defer one week of their 1950 vacation to 1951

	<u>February</u>			<u>Total to Date</u>		
	<u>Weekly</u>	<u>Monthly</u>	<u>Total</u>	<u>Weekly</u>	<u>Monthly</u>	<u>Total</u>
Manufacturing	23	9	32	43	10	53
Design and Construction	0	1	1	0	1	1
Community	5	1	6	6	1	7
Technical	8	5	13	8	5	13
Plant Security & Services	25	5	30	70*	18	88*
General Accounting	2	0	2	2	0	2
Total	<u>63</u>	<u>21</u>	<u>84</u>	<u>129*</u>	<u>35</u>	<u>164*</u>

*Total to Date reduced by one cancellation

Annuity Certificates (For duPont Service)

	<u>February</u>	<u>Total to Date</u>
Number issued	1	69

General Accounting Division

Employee Plans (continued)

	<u>Mfg.</u>	<u>D&C</u>	<u>Comm'y</u>	<u>Other</u>	<u>Total</u>
<u>U. S. Savings Bonds</u>					
Number participating at beginning of month	1 746	248	342	1 458	3 794
New authorizations	14	8	6	29	57
Voluntary cancellations	(28)	(1)	(9)	(20)	(58)
Removals and transfers out	(13)	(2)	(1)	(15)	(31)
Transfers in	9	1	4	5	19
Number participating at month end	1 728	254	342	1 457	3 781
% participating	54.5%	45.6%	47.0%	45.4%	50.6%
<u>Bonds issued</u>					
Maturity Value	\$107 375	\$16 125	\$18 675	\$80 700	\$222 875
Number	1 866	268	336	1 457	3 927
Refunds issued	31	1	8	24	64
Revisions in authorizations	22	1	4	30	57
<u>Annual going rate of deductions</u>					
<u>G.E Employees Savings and Stock Bonus Plan</u>					
General Electric Savings Plan	\$725 857	\$103 539	\$131 981	\$578 588	\$1 539 965
Total	\$229 565	\$ 35 825	\$ 41 869	\$159 688	\$ 466 947
	<u>\$955 422</u>	<u>\$139 364</u>	<u>\$173 850</u>	<u>\$738 276</u>	<u>\$2,006 912</u>

<u>Suggestion Awards</u>	<u>February</u>	<u>Total to Date</u>
Number of awards	-0-	478
Total amount of awards	-0-	\$6 995

Employee Sales Plan

	<u>February</u>		
	<u>Total</u>	<u>Major Appliances</u>	<u>Traffic Appliances</u>
Certificates Issued	194	25	169
Certificates Voided	10	0	10

Salary Checks Deposited

	<u>January</u>		<u>February</u>	
	<u>Weekly</u>	<u>Monthly</u>	<u>Weekly</u>	<u>Monthly</u>
Richland Branch - Seattle First National Bank	800	825	799	829
North Richland Area Office - Seattle First National Bank	11	7	13	7
Richland Branch - National Bank of Commerce	85	59	95	63
Out of state banks (Schenectady staff)	--	3	--	3
Total	<u>896*</u>	<u>894</u>	<u>907**</u>	<u>902</u>

*Week ended 1-29-50

**Week ended 2-26-50

Special Absence Allowance Requests

	<u>January</u>	<u>February</u>
Number submitted to Pension Board	10	9

Absenteeism (Weekly Paid Employees)

	<u>January</u>	<u>February</u>
January 1 to February 19	1949 3.19%	1950 2.76%

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING

	<u>January</u>	<u>February</u>
Number of Employees		
On Payroll at beginning of month	173	174
Removals and transfers out	(4)	(6)
Additions and transfers in	5	7
Number at end of month	<u>174</u>	<u>175</u>
Net increase (or decrease) during month	1	1
% of terminations and transfers out	2.3%	3.4%
% of absenteeism	3.04%	3.43%

Changes by division in number of Accounting Division employees during February were as follows:

General: Decrease of one employee

One transfer to Special Assignments

Accounts Payable: No Change

Cost: No Change

General Accounts: Decrease of one employee

One transfer to Plant Accounting

Plant Accounting: No Change

One transfer from General Accounts
One illness removal

Weekly Payroll: Decrease of two employees

Three new hires
One transfer to Construction - Security
Two terminations
Two illness removals

Monthly Payroll: Increase of one employee

One transfer from Plant Security & Services

Special Assignments: Increase of four employees

Two new hires
One transfer from Air Conditioning Dept., Bloomfield, New Jersey
One transfer from General Accounting - General

Budgets: No Change

<u>Injuries</u>	<u>January</u>	<u>February</u>
Major	0	0
Sub-major	0	0
Minor	1	0

General Accounting Division

PERSONNEL AND ORGANIZATION - GENERAL ACCOUNTING (continued)

Number of Accounting Division employees as of February 28, 1950 were as follows:

	Number of Employees		
	<u>Non-Exempt</u>	<u>Exempt</u>	<u>Total</u>
General	3	3	6
Accounts Payable	15	1	16
Cost	9	1	10
General Accounts	14	1	15
Plant Accounting	22	3	25
Weekly Payroll	71	5	76
Monthly Payroll	15	2	17
Special Assignments	1	6	7
Budgets	2	1	3
Total	<u>152</u>	<u>23</u>	<u>175</u>

Non-exempt employees may be summarized as follows:

Classification	Number as of	
	<u>1-31-50</u>	<u>2-28-50</u>
Accounting A	3	3
Accounting B	1	1
Accounting C	1	2
Accounting D	5	5
Business Graduate	4	5
Clerical Working Leader	5	5
Cost Clerk A	1	1
Cost Clerk B	1	1
Cost Clerk D	2	2
Field Clerk B	0	1
Field Clerk C	3	1
General Clerk A	23	25
General Clerk B	42	43
General Clerk C	21	19
General Clerk D	10	9
General Clerk E	1	1
Office Machine Operator B	16	16
Secretary B	1	1
Steno-Typist A	2	2
Steno-Typist B	4	6
Steno-Typist C	2	1
Steno-Typist D	5	2
Total	<u>153</u>	<u>152</u>

Open employment requests as of February 28, 1950 were as follows:

Business Graduate 8

General Accounting Divisions

	<u>January</u>	<u>February</u>
<u>Accounts Payable *</u>		
Balance at Beginning of Month	\$ 74 319	\$ 56 235
Vouchers Entered	885 765	2 091 175
Cash Disbursements	904 258 Dr.	2 107 405 Dr.
Cash Receipts	<u>409</u>	<u>219</u>
Balance at end of month	<u>\$ 56 235</u>	<u>\$ 40 224</u>
Number of Vouchers Entered	1 588	1 374
Number of Checks Issued	1 086	976
Number of Freight Bills Paid	225	201
Amount of Freight Bills Paid	\$ 2 958	\$ 3 295
Number of Purchase Orders Received	818	750
Value of Purchase Orders Received	\$ 148 776	\$ 122 566
<u>Cash Disbursements</u>		
Community	\$ 35 325	\$ 48 778
Design & Construction	1 430 973	1 000 140
General	2 847 316	3 938 275
Manufacturing	<u>352 920</u>	<u>420 874</u>
Total	<u>\$4 666 534</u>	<u>\$5 408 067</u>
Material and Freight	\$ 711 566	\$ 607 297
Lump Sum and Unit Price Subcontracts	363 105	45 524
CPIFF Subcontracts		
Labor	558 156	670 740
Others	294 931	270 603
Payrolls (Net)	1 710 614	1 673 095
Payrolls Taxes	244 515	317 648
U. S. Savings Bonds	232 439	157 776
General & Administrative Expenses	200 000	200 000
Miscellaneous	351 208	270 758
Pension Plan - Employers Cost	<u>-0-</u>	<u>1 194 626</u>
Total	<u>\$4 666 534</u>	<u>\$5 408 067</u>
<u>Cash Receipts</u>		
Community	\$ 98 538	\$ 89 379
Design & Construction	35 694	30 398
General	4 497 023	5 501 000
Manufacturing	<u>15 289</u>	<u>14 150</u>
Total	<u>\$4 646 544</u>	<u>\$5 634 937</u>

* General Divisions Only.

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General Accounting Divisions

	<u>January</u>	<u>February</u>
<u>Detail of Cash Receipts</u>		
Hospital	\$ 62 407	\$ 67 915
Scrap Sales	18 849	7 948
Miscellaneous Accounts Receivable	5 362	6 336
Educational Program	619	1 494
Employee Sales	619	563
Refunds from Vendors	6 704	4 245
Rents	98 391	101 465
Telephone	11 563	10 105
Bus Fares	13 229	11 416
Sales of Plant & Equipment	130	350
Advances from A.E.C.	4 395 988	5 421 048
Final Settlement from Great Lakes Carbon Co.	14 819	-0-
Refund from Metropolitan Insurance Co.	14 890	-0-
All Other	<u>2 974</u>	<u>2 052</u>
	<u>\$4 646 544</u>	<u>\$5 634 937</u>

Number of Checks Written

Community	171	125
Design & Construction	163	150
General	1 086	976
Manufacturing	<u>558</u>	<u>467</u>
Total	<u>1 978</u>	<u>1 718</u>

Bank Balances at End of Month

Chemical Bank & Trust Company - New York Contract Account	\$ 699 390	\$ 994 058
Seattle First National Bank - Richland Contract Account	1 967 807	1 881 310
U. S. Savings Bond Account	69 024	224 858
Salary Account No. 1	20 000	20 000
Salary Account No. 2	30 000	30 000
Travel Advance Account	22 314	22 797
Seattle First National Bank - Seattle Escrow Account	39 871	64 471
Salary Account No. 3	5 000	-0-
National Bank of Commerce - Richland Contract Account - Manufacturing	447 080	479 126
Contract Account - Community	<u>64 675</u>	<u>51 222</u>
	<u>\$3 365 161</u>	<u>\$3 767 842</u>

Travel Advances and Expense Accounts

Cash Advance balance at end of month*	\$ 13 114	\$ 12 903
Cash Advance balance outstanding over one month*	100	987
Traveling and Living Expenses:		
Paid Employees	11 104	20 069
Billed to Government	10 420	19 715
Balance in Variation Account at end of month	1212475	4 357 Dr.
	4 004 Dr.	4 357 Dr.

* General Divisions only.

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General Accounting Divisions

ACCOUNTS PAYABLE

The number of Accounts Payable vouchers entered in February decreased 13% from January, the same percentage decrease that occurred in January from December.

There was a corresponding decrease in the number of freight bills paid in February. Total paid was 201 compared with 225 in January, or a decrease of 11%.

The number of new purchase orders received in February likewise decreased from 318 in January to 250 in February.

Total vouchers on hand at the end of February requiring additional supporting data before they could be considered complete decreased 15% from January. Details are below:

	<u>January</u>	<u>February</u>
Number on hand- Paid	269	111
Number on hand - Unpaid	<u>782</u>	<u>785</u>
Totals	<u>1 051</u>	<u>896</u>

Accounts Payable general ledger balance at February 28 was \$40 223.75, a considerable decrease from the balance of \$56 234.66 at January 31. Most of the open balance (96%) represents Accounts Payable items recorded in the current month which are not due to be paid. Details by months of the open balance are as follows:

October 1949	\$ 37.50 Dr.
November 1949	18.00
December 1949	379.64
January 1950	1 034.30
February 1950	<u>38 559.31</u>
Total	<u>\$40 223.75 Cr.</u>

The number of incomplete purchase orders on hand applying to General Divisions as of February 28 decreased 12% from January. As of February 28, there were 1 029 orders on hand for which complete billing has not been received.

The number of vouchers on hand more than 60 days, either unpaid, uncollected red vouchers, or paid vouchers not yet completed with supporting documents, increased slightly over January. Details are as follows:

	<u>On January 31</u>		<u>On February 28</u>	
	<u>No.</u>	<u>Amount</u>	<u>No.</u>	<u>Amount</u>
Unpaid Vouchers	7	\$ 244	15	\$ 666
Uncollected Debit Vouchers	1	60	4	306
Paid-Incomplete Vouchers	<u>17</u>	<u>19 837</u>	<u>12</u>	<u>9 825</u>
Totals	<u>25</u>	<u>\$20 141</u>	<u>31</u>	<u>\$10 245</u>

General Accounting Divisions

ACCOUNTS PAYABLE (Continued)

On February 13 all files pertaining to scrap sales were transferred to the General Accounts Section, where the auditing of the various documents pertaining to these sales will now be performed.

BUDGETARY CONTROL

During the first week of the month three employees were borrowed from other sections in order to assemble fiscal year to date data relative to the budgets for fiscal years 1951 and 1952.

Detailed work sheets were prepared showing actual costs for six months ended December 31, 1949 for use of all General Divisions in preparing fiscal year 1952 budget estimates and revising fiscal year 1951 budget estimates of within-division, construction, research and development, and balance sheet budgets. Distribution of these work sheets to division managers and division heads was made, together with a detailed letter of instructions, on February 8. All work sheets, except balance sheet budget work sheets, are scheduled to be received by March 13.

Considerable time during the month was spent in contacting personnel in the various divisions and assisting them in preparing their budgets.

Detail work sheets, which were prepared to record and control appropriation requests originating in General Divisions were completed and are being kept up to date daily by posting from various reports and other papers and documents as received.

COST

General Divisions Operating Reports were issued on February 15, 1950. Detailed report of Research and Development Costs was issued on February 23, 1950 and Summary of Costs Report was issued on February 24, 1950.

In order to provide better control, all items designated as Construction Work in Progress were transferred to the books of the division performing the work - either Manufacturing or Community. In the future, General Divisions will report only items which are being fabricated by the Technical Divisions (Technical Shops) and which are to be charged to Investment.

Allocation of charges from the 101 Area was discussed and a revised proration of Power Division charges was agreed upon whereby Technical Shops would be charged for heat only. A revised allocation of charges for Purchased Electricity was also settled upon.

Work is currently being performed at the Pasco warehouses by Surplus, Salvage and Scrap personnel for the Bureau of Federal Supply in connection with the sale of excess stocks. We have arranged to be notified of labor supplied in this connection and are charging this (together with an IE of 65%) to General Ledger account 15.14 - "Cost of Delivering Materials to Buyers". This account is to be credited with allowances received by AEC in connection with these sales.

General Accounting Divisions

COST (Continued)

Cost code revisions were accumulated and revised, code sheets printed, and distribution was made to all General Divisions and Manufacturing Accounting Divisions.

A complete analysis was made of the costs of each General Division and cost estimates for February were carefully prepared. Based on these estimates, liquidation rates and amounts were established for February so as to reduce or eliminate any year-to-date underliquidation. By following the same procedure in March, underliquidations will be entirely eliminated by March 31.

GENERAL ACCOUNTS

General Ledger Trial Balances were received from all Accounting Divisions with the exception of Atkinson-Jones on February 16. Hanford Works Financial Statements were completed on February 16 and Consolidated Financial Statements on February 21 excluding details of A-J accounts. Atkinson-Jones submitted a Trial Balance on February 28 and the Consolidated Trial Balance and Hanford Works Financial Statements were reissued to include A-J detailed information.

Advances from AEC remained at \$4 000 000.

The responsibility for scrap sales was transferred from the Accounts Payable Section to this Section. All sales of tract houses to date were analyzed and revenue collected on these sales was passed to the Atomic Energy Commission through Government Cost Transfers.

An audit of Scrap Sales was made during the month and the accounting methods in use were found to be satisfactory. A detailed report on this audit has been issued. A follow-up was made on the closing of the Stationery Sub-Store in the 703 Building. The accounting procedure for the pricing of withdrawals of stationery supplies individually and charging divisions for the exact amount of supplies withdrawn was completed and made effective March 1. Work is continuing on the audit of the Surplus, Salvage and Scrap Section activities.

MEDICAL ACCOUNTING

It is estimated that \$23 000 included in the Hospital accounts receivable balance of \$172 649 is uncollectible. This includes approximately \$12 000 recently re-funded to Atkinson-Jones Co. to cover accounts uncollectible by them for which we were previously reimbursed by A-J.

All collection letters used by the Medical Accounting Section were reviewed and revised.

Out patient invoices numbered 9 263 and amounted to \$40 258; cash invoices numbered 5 424 and amounted to \$18 878; charge invoices numbered 3 839 and amounted to \$21 380. This is a decrease for the monthly period but is an increase on a daily basis.

In patient sales decreased from \$60 785 to \$55 504.

General Accounting Divisions

PLANT ACCOUNTING

Plant Statements for the six month period June 30, to December 31, 1949 were completed and issued on February 15.

February entries were prepared transferring from Unclassified Property in Service to appropriate Plant Accounts, Projects C-206 - Construction of "DR" and Project C-267 - Construction of 101 Area. Both of these projects were listed in the June 30, Statement as Unclassified Property in Service.

HW Instruction Letter No. 142 was issued providing a basis for determining proper distinction between items chargeable to cost and items chargeable to investment accounts. At present HW Instruction Letter No. 84 dealing with Appropriations and Budgets is being studied for the purpose of recommending revisions necessary for Plant Accounting purposes.

A preliminary copy of a Property Accounting Manual to be issued by the Atomic Energy Commission was received and reviewed by the supervisor of the Plant Accounting Section. Most of the provisions of this Instruction Manual are in accordance with understandings and practices now in effect.

A letter was written to the AEC requesting modification of certain requirements pertaining to poles, transformers and electric motors. If these recommendations are adopted, costs incurred in replacing the above items, exclusive of cost of the items themselves, will be charged to Operating Expense rather than to Plant Accounts.

General Accounting Divisions

PAYROLLS

Approximately 356 man hours were expended by Payroll Division in connection with the preparation of an Appendix C to the Prime Contract. A planned overtime schedule for four Monthly Paid payroll employees was necessary in order to prepare this work in draft form during the month of February.

The portion of the Appendix C, which was prepared by Payrolls, covered in detail all benefit plans and resulting payments to Hanford Works employees, the costs of which the company expects reimbursement from the Government. A concerted effort was made to include in the draft of the Appendix C all existing payroll policies and practices as well as anticipated revisions, modifications, and additions to such policies and practices.

* * * * *

During the month of February there were 68 removals from Payroll of which 3 were removals due to lack of work, and there were 99 additions to the payroll, including 2 transfers from other units of the Company, resulting in a net increase of 31 employees on the payroll.

* * * * *

Wednesday, February 22, 1950, was an observed holiday at Hanford Works and Weekly Salary Checks for employees of the outer areas for week ended February 19, 1950 were delivered to the areas on Thursday, February 23, 1950 between the hours of 8:00 P.M. and 11:00 P.M. Salary checks for employees in Richland, North Richland, and Pasco were delivered to the division representatives in the usual manner on Friday, February 24, 1950.

* * * * *

Under the General Electric Employee Savings and Stock Bonus Plan, 122 participating employees withdrew from the Plan 737 U. S. Savings Bonds having a maturity value of \$36,700. U. S. Savings Bonds and Custody Receipts covering purchases by employees through payroll deductions in January were delivered to employees on February 24, 1950. There were 744 U. S. Savings Bonds and 2,505 Custody Receipts distributed to employees. As of February 28, 1950, percentage of Hanford Works employees participating in the G. E. Employees Savings and Stock Bonus Plan and General Electric Savings Plan was as follows:

	<u>Mfg.</u>	<u>D&C</u>	<u>Comm'y</u>	<u>Other</u>	<u>Total</u>
G. E. Employees Savings and Stock Bonus Plan	50.1%	40.6%	41.9%	43.3%	45.8%
General Electric Savings Plan	13.0%	10.0%	9.7%	9.8%	11.1%
Both Plans	54.5%	45.6%	47.0%	48.4%	50.6%

* * * * *

Under the Group Health Insurance Plan, 385 claims for benefits by employees were forwarded to Metropolitan Life Insurance Company, during February and 578 checks were received from the Insurance Company covering payment of 402 claims submitted

General Accounting Division

PAYROLLS (CONT.)

by employees for benefits under the Plan.

Approximately 47,478 items were addressographed in Weekly Payroll Division during February for other divisions at Hanford Works in addition to regular routine addressograph work.

Permission to defer one week of their 1950 vacations until 1951 was granted by Division Managers in February to 63 Weekly Paid employees and 21 Monthly Paid employees. To date permission to defer one week of 1950 vacations until 1951 has been granted to 129 Weekly Paid employees and 35 Monthly Paid employees.

There were 31 time cards received late in Weekly Payroll during the month of February as follows:

<u>Week Ended</u>	<u>Number of Time Cards Received Late</u>
2- 5-50	5
2-12-50	7
2-19-50	16
2-26-50	3
	<u>31</u>

The Hanford Atomic Metal Trades Council submitted to Weekly Payroll Division 199 authorization cards for deduction of Union dues from salaries of employee members of four unions, as follows:

<u>Union</u>	<u>Number</u>
International Association of Mechinists, Lodge #1743	2
Instrument Craftsmen's Guild	66
International Union of Operating Engineers, Local #370 C	40
International Chemical Workers Union, Local #369	91
Total	<u>199</u>

Deduction of Union dues from employee union members' salaries, for whom Payroll has received a deduction authorization, will be made from salary checks paid on the first pay day of each month. The initial deduction will be made from salaries paid on March 3, 1950. Checks payable to the individual unions covering collection of Union dues by Payroll deduction, and detailed lists supporting such deductions, will be forwarded to G. A. Foster, Business Representative, Hanford Atomic Metal Trades Council

General Accounting Division

PAYROLLS (CONT.)

A schedule of employees who will become eligible for retirement, including optional retirement, through September 1, 1956 was prepared by Payroll Divisions for Employee and Community Relations Division. A total of 775 employees, 629 male and 146 female, were listed on the report according to date of birth. The report also included the following information on each employee.

1. Name
2. General Electric Continuous Service Date
3. Date of Birth
4. Effective Date of Group Life Insurance
5. Amount of Free and Additional Group Life Insurance Coverage at January 31, 1950

Returns of Information at the source were filed with State Commissions in the States of New York, Massachusetts, North Carolina, Indiana, Colorado and Oregon. These returns involved 23 employees who were advised by letter the amount reported to each state and the date required by the state concerned for filing Individual Returns.

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - FEBRUARY 1950

SUMMARY

There was one major injury in February making a total of one for the year to date and a frequency rate of 0.43.

There were three minor fires in the industrial areas with a total loss of \$54.00.

Volume of both Laundries remained approximately the same as January.

Mail volume again increased over previous months. Changes in layout and work space speeded handling.

Office machine repairs and service calls increased appreciably during the month. Volume of printing and duplicating orders decreased slightly.

The plant records inventory has been completed except for Classified Files.

Effective February 20, two new posts were placed in effect in the 200-West Construction Area. On February 27, the post at P-11 was extended to 24-hour coverage.

1212484

187

PLANT SECURITY AND SERVICES DIVISIONS

MONTHLY REPORT - FEBRUARY 1950

ORGANIZATION AND PERSONNEL

Number of employees on payroll:

	<u>Beginning of Month</u>	<u>End of Month</u>	<u>Increase</u>	<u>Decrease</u>
Staff	3	3		
Patrol and Security	574	579	5 (a)	
Safety & Fire Protection	150	149		1 (b)
Office Services (General Services, Clerical Services, and Records Control)	212	219	7 (c)	
TOTALS	939	950	12	1

NET INCREASE: 11

(a) - Patrol and Security

4 - Rehired (Patrol)
1 - New Hire (Security)
3 - Returned from Leave of Absence (Patrol)
2 - Removed from Roll due to Leave of Absence (Patrol)
1 - Termination (Security)

(b) - Safety and Fire Protection

1 - Termination (Fire)

(c) - General Services

3 - Rehired
1 - Returned from Leave of Absence
1 - Termination
3 - Removed from Roll due to Leave of Absence

Clerical Services

16 - New Hires
9 - Transferred to other Divisions

1212485

Plant Security and Services Divisions

SAFETY AND FIRE PROTECTION

Injury Statistics

Days since last Major Injury 17
 Accumulated Exposure Hours since last Major Injury 692,966
 Major Injury Frequency Rate (start-up to date) 0.84

	<u>January</u>	<u>February</u>	<u>Year to Date</u>
Major Injuries	0	1	1
Sub-Major Injuries	7	2	9
Minor Injuries	334	279	613
Exposure Hours	1,204,881	1,124,885	2,329,766
Major Injury Frequency Rate	0.0	0.89	0.43
Major Injury Severity Rate	0.0	0.011	0.0052
Minor Injury Frequency Rate	2.77	2.48	2.63

Major Injury No. 68

On February 11, 1950, at approximately 2:25 P.M.; an employee of the Maintenance Division working in the 105 Building, 100-H Area, sustained a laceration to the cornea of the right eye. The injured was repairing a leak in a gauge glass. After replacing the glass with a new one, he allowed the steam pressure to rise slowly over a period of fifteen minutes. During the inspection of this replacement with the intent of replacing the gauge guard, the glass suddenly exploded, knocking off his safety glasses and cutting his eye.

Sub-Major Injury No. 173

On February 2, 1950, at approximately 3:25 P.M., an employee of the Maintenance Division working in the 200-West Area received a deep laceration and chipped bone, distal phalanx of the right ring finger. Maintenance employees were moving a milling machine vertical head into position using an A-frame to carry the load. As the A-frame was being placed near the machine, a fluorescent light fixture suspended approximately seven feet above the milling machine would not clear the A-frame. The injured, while standing back of the cross carriage, placed his left hand on the machine table and with his right hand reached up to push the light fixture aside. He received an electric shock and was unable to pull his hand free of the light fixture. To get free, the injured threw his body weight and as his hand came away from the fixture, his right ring finger slid along the sharp upturned metal edge of the reflector causing the injury.

Sub-Major Injury No. 174

On February 27, 1950, at approximately 2:40 P.M., an employee of the Transportation Division working at the 3000 Area lumber pile received a fracture to the right great toe when a piece of lumber fell on it. The injured was restacking lumber when the stripping was released allowing the overhanging pieces to fall. The injured was not wearing safety shoes.

121248b

Plant Security and Services Divisions

Safety and Fire Protection (Contin)

100 Areas Activities

The 100-B Area Maintenance Division won the period award of the Maintenance Safety Derby.

An inspection tour was made with an H. I. Division Committee of all buildings and facilities used by their personnel in the 100-B Area. Conditions in general were found to be exceptionally good.

Arrangements have been made to control the traffic developing in the 100-D Area as a result of the new construction program.

A meeting was held at the request of the Transportation and Power Divisions to work out a plan for the protection of overhead and underground lines in the 100-D Area. Committee recommendations are being forwarded to the Transportation Division.

An inspection tour was made with an H. I. Division Committee of all Buildings and facilities used by their personnel in the 100-D Area. Conditions in general were found to be exceptionally good.

A special inspection of equipment installations in the 108-F Building was conducted and the new elevator was accepted.

The bag lift elevator recently installed in the 139 Building presents a definite hazard near the top of the lift. The Power Division has agreed not to accept it until the hazard is corrected.

Specific safety steps for installation of special instruments in the 105-H Building have been recommended.

The foremanship training series instruction booklets have been received and the training course for all foremen in Minor Construction Division have been scheduled.

Conditions in the experimental section of the 101 Building have been taken up with Supervision and arrangements made to improve housekeeping and arrangement of equipment.

200 Areas Activities

There was one near serious accident and one sub-major injury in the 200-West Area during February. Nothing of serious consequence occurred in the 200-East Area.

An area-wide inspection was conducted by H. I. Division personnel on H. I. buildings and equipment. The results of the inspection were good. The area safety engineer was a member of the inspecting committee.

At present, 200-West Area is within 36 days of completing another year without a lost time injury.

A study is being made of bottle gas handling procedures and practices in usage being checked.

1212481

Plant Security and Services Divisions

Safety and Fire Protection (Contin)

Inspection was made of methane installation at request of Technical supervision. Recommendations were given for safe operation.

Investigation and recommendations have been made for special air and gas sampling equipment in the 234-5 Building.

A study has been made of design problems of operating equipment to include safety features for safe operation in the 234-5 Building. Recommendations were made.

Recommendations have been made for method of emergency shut-down on operating equipment and the prevention of possible explosion within the equipment.

At the request of the Maintenance Division, a study was made of a hazardous welding operation and necessary protective measures recommended to assure a safe job.

Recommendations were made to the Maintenance Division for procurement of a portable fresh air compressor designed especially for respiratory supply. Further assistance will be given on this problem as the need for such equipment is becoming more imperative every day.

Assistance was given by the Safety Engineer in tank inspection and repair work in which entry to acid tank is to be made. Necessary precautions have been taken for flushing and neutralizing before entry and all protective, respiratory and emergency equipment will be procured. Air tests will be made before initial entry.

Recommendations are being prepared for shop installation of manifold system for welding booths.

300 Area Activities

Bulletins covering the safe use and handling of Carbon Tetrachloride and Trichloroethylene were completed and presented for discussion and approval.

700 - 1100 Areas Activities

An investigation was made on the location of control levers for signal arms in truck cabs. Recommendations were sent to the Transportation Division.

Inspection of a material handling job was made at Pasco and verbal recommendations for protective equipment given to the foreman.

Recommendations were given to Stores regarding the transporting of wide loads on area roads.

FIRE PROTECTION

A movie film on Fire Department Salvage work was obtained from the National Board of Fire Underwriters and was shown to all Fire Department personnel.

A basic building code for warehouses was prepared and approval obtained for its use.

Plant Security and Services Divisions

Fire Protection (Contin)

The sprinkler system in the baby ward at the hospital was inspected with the hospital business manager, Village Safety and Fire group, and the A. E. C. Safety and Fire Protection Division. The decision was to make no change in the sprinkler system but to add a temperature alarm that would sound before temperature was high enough to trip sprinkler system.

The P-11 Area was inspected preparatory to being turned over to Operations.

It is planned to install a watchman clock system in the warehouse at Pasco and is expected to be put into operation in March.

Construction has started on the DR water works, 100-D Area. The Fire Department phone numbers have been posted throughout the Area.

The main activity in the 100-F Area is by Minor Construction in the remodeling of the 108 Building. Fire hazards have been held to minimum by them during the month.

Industrial Fires

<u>Division</u>	<u>Area</u>	<u>No. of Fires</u>	<u>Cause</u>	<u>Loss</u>
Power	300	1	Heating Unit	None
Maintenance	200-East	1	Heating Unit	\$ 30.00
	Total	2	Total	\$ 30.00

Industrial Investigation

<u>Division</u>	<u>Area</u>	<u>No. of Fires</u>	<u>Cause</u>	<u>Loss</u>
SS Division	200-West	1	Welding	\$ 24.00
TOTAL NUMBER OF INDUSTRIAL FIRES		3	TOTAL LOSS	\$ 54.00

OFFICE SERVICES DIVISIONS

General Services

Laundering volumes were as follows:

Plant Laundry (Building 2723)

	<u>January</u>	<u>February</u>
Coveralls - Pieces	30,415	28,458
Towels - Pieces	7,513	6,653
Miscellaneous - Pieces	70,017	68,268
Total Pieces	107,945	103,379
Total Dry Weight - Lbs.	153,568	146,066

12,2469

192

Plant Security and Services Divisions

General Services (Contin)

Richland Laundry (Building 723)

	<u>January</u>	<u>February</u>
Flatwork - Pieces	57,251	50,909
Rough Dry - Pieces	31,726	29,595
Finished - Pieces	2,980	2,772
	<hr/>	<hr/>
Total Pieces	91,957	83,276
Total Dry Weight - Lbs.	59,772	62,457

Monitoring Section (Building 2723-W)

Poppy Check - Pieces	82,781	85,867
Scaler Check - Pieces	97,209	96,909
	<hr/>	<hr/>
Total Pieces	179,990	182,776

Clerical Services

Mail Room

Work was completed on new sorting tables and layout of the mail room. The changes have speeded up the handling of the mail.

Mail volume again increased during the month.

The stationery supply room was discontinued on February 27 and the daily delivery service started. A folding machine was moved to Printing from the Mail Room on February 27.

	<u>January</u>	<u>February</u>
Pieces of Internal Mail Handled	378,596	396,352
Pieces of postal mail handled	61,075	57,976
Pieces of registered mail handled	951	860
Pieces of insured mail handled	687	522
Pieces of special delivery mail handled	185	136
	<hr/>	<hr/>
Total Mail Handled	441,494	455,846
Total Amount of Postage Used	\$1,458.80	\$1,250.07
Teletypes Sent Out	933	859
Teletypes Received	793	916
	<hr/>	<hr/>
Total Teletypes Handled	1,726	1,775
Total Number of Store Orders Filled:	2,021	2,061

1212490

Plant Security and Services Divisions

Office Equipment

	<u>January</u>	<u>February</u>
Office Machines repaired in shop	193	220
Office Machines service calls.	<u>255</u>	<u>325</u>
Total Machines serviced	448	545

Printing

Work on new benches, equipment and layout in the Printing Section has been completed and has greatly facilitated work in the Bindery Unit.

	<u>January</u>	<u>February</u>
Multilith orders received	319	280
Multilith orders completed	299	290
Multilith orders on hand at month end	82	72
Mimeograph orders received	1,949	2,095
Mimeograph orders completed	2,040	2,099
Mimeograph orders on hand at month end	4	0
Ditto Orders received	1,315	1,139
Ditto orders completed	1,363	1,141
Ditto orders on hand at month end	2	0

Stenographic Services

	<u>January</u>		<u>February</u>	
	<u>Hours</u>	<u>Quantity</u>	<u>Hours</u>	<u>Quantity</u>
Dictation and Transcription	0	0	0	0
Machine Transcription	18:30	42	51:30	107
Letters	63:50	102	52:25	123
Manual and Procedures	32:00	56	63:55	154
Duplicating - Stencils, Ditto	159:05	251	289:35	594
Special	412:50	990	370:10	1,183
Training	97.5		282.0	
Unassigned time during month	53.5		81.0	
Meeting Time	3.3		8.7	
Illness	<u>13.7</u>		<u>8.0</u>	
Total Hours	902.8		1206.7	
Employees loaned to other Divisions	428.5		211.5	
Total Hours Available	<u>1,331.3</u>		<u>1,417.12</u>	

1212491

Plant Security and Services Divisions

Records Control Division

Quantity of records received, processed and stored:

	80 Standard Cartons		
Accounting Division	120	"	"
Design and Construction Divisions	18	"	"
Employee and Community Relations Divisions	6	"	"
Maintenance Division	19	"	"
Medical Division	3	"	"
Project Engineering Division	47	"	"
Purchasing and Stores Divisions	8	"	"
Transportation Division			

TOTAL

301 Standard Cartons

Standard Records cartons issued: 432

Persons furnished records services: 156

Records Inventory:

The plant records inventory is complete with the exception of Classified Files.

The next step in this program is the establishing of the location of the "Record File" (records to be later transferred to Records Center for keeping) for all records and designating duplications as "Office Files" so that they can be disposed of in the offices when they become inactive. Retention periods are also being established at this time.

E. J. Leahy, Executive Director of the National Records Management Council, spent five days (February 20th through February 24th) on the Plant as a consultant, reviewing the A.E.C. and G.E. records control program. His reports were very encouraging and commended the planning, execution, and results of the program.

Twenty-four sections of metal shelving have been loaned to this Division by the A. E. C. to use until the new Records Center is built. This shelving is being erected in the 712-B Hutment.

Forms Control

This program is continuing to produce economical results as well as improve the general appearance of printed forms. Design standards are being constantly improved for wider application and more economic reproduction.

During the month of February, fifteen new forms were designed resulting in an annual savings of approximately \$1,200. For example, one form reduced paper and printing needs from 15,000 8½ x 11 forms to the equivalent of 1,700 8½ x 11 forms. Another form reduced fill-in time required from five days to one day per month.

1212492

Plant Security and Services Divisions

PATROL AND SECURITY

General

Effective February 3, 1950, the control of keys to the dynamite storage at Riverland Yards was transferred to the Transportation Division

Effective at 8:00 A.M., February 6, the post at Room 205 in the 234-5 Building was moved to the stairway landing of Stairway No. 4. This post is now designated as Stairway No. 4.

On February 9, at 12:01 A.M. the control of the Yakima Barricade was transferred from the 200-West Area to the 100-B Area. Sufficient personnel to operate this barricade were transferred from the 200-West Area.

As of February 13, that portion of the 101 Building known as the "Pad Room" adjacent to the machine room will be considered a hazardous area and persons entering will be required to use personnel meters.

A procedure to increase the security for the plant by establishing positive identification of personnel presenting Visitor and/or One Day Yellow Tag passes was placed into effect on February 20.

A procedure covering Emergency Plan Notification for the Emergency Officer was established February 20.

Effective February 20, the 200-West Area post designated as Exclusion Area Fence Patrol was discontinued.

Effective February 20, two new posts are in effect in the 200-West Construction Area. These posts will be known as (1) M-J-1 Badge House, manned from 7:00 A.M. to 5:00 P.M. and (2) Gate No. 650. The M-J-1 Badge House will control entrance to and exit from the M-J-1 construction area. Gate No. 650 post will control the exit of construction personnel from the M-J-1 Construction Area to the 200-West Operation Area. This post will be manned 24 hours a day.

The control of the 234-5 Exclusion Area was changed from the Security Field Inspection Division to the Security Patrol Division on February 21.

Two members of the Security Division attended the "Counter Subversive National Security, West Coast Conference" meeting at Portland, Oregon on February 25.

Revision of the Security Patrol Central Supply records was completed on February 24.

Effective February 24, the post in the 3000 Area became a full time post, 6:00 P.M. to 7:00 A.M., Monday through Friday; 24 hours on Saturday, Sunday and holidays.

As of February 27, the post at P-11 was extended from the No. 2 Shift only to 24 hours coverage and will be designated as General Security Patrol on the No. 1 and No. 3 Shifts.

Plans have been completed to reorganize the Security Patrol Administration Section to increase efficiency by consolidation of records and reduction of one clerical position. This will allow office space for the Security Field Inspection Division. This reorganization is to be effective March 13, 1950.

1212493

Plant Security and Services Divisions

Patrol

The 200 Areas handled 73 process escorts between the areas.

Requests handled totaled 373, consisting mainly of opening doors, gates and providing escorts for employees of other departments.

A total of 85 Unusual Incident reports were received, consisting mainly of Security Violation, lost badges, pencils, contraband picked up at barricades, traffic accidents and fires.

A total of 537 pat searches were made of employees leaving the operating areas during the month.

Patrol supervision handled two First Aid cases during the absence of the Area nurse.

Classified escorts totaling 31 were handled during the month.

A total of 20 traffic escorts were handled during the month.

Patrol made 13 ambulance runs for the Medical Division during the month.

Practice Evacuations were held as follows:

100-B Area	2-14-50	11:10 A.M.
100-D Area	2-1 -50	10:36 A.M.
100-F Area	2-21-50	10:05 A.M.

Arrest Summary

	<u>January</u>	<u>February</u>
Warning tickets issued	0	0
Verbal warning given	1	3
Citation tickets issued (traffic only)	0	0

Accident Summary

Total Accidents	3	12
Government permits suspended	1	0

Training

Training courses held during the month were as follows:

	<u>Hours</u>
Security	1/4
Safety	1/2
Health	1/4
Patrol Operations Class No. 1	1
Patrol Operations Class No. 2	1
Small Arms Firing .38 Cal. (double action)	1 1/2
Small Bore Firing .30 Cal. Carbine	2

1212494

Plant Security and Services Divisions

Patrol (Contin)

The Safety Bulletin Board which was constructed during the month of May, 1949 was also used during the month of February.

The competitive safety program is being continued.

Inventory of all range equipment and arsenal contents was completed on February 24.

Security

There were 188 security meetings held and attended by 2,434 General Electric employees during the month.

Security orientation talks were given to 24 employees who received their "Q" clearance from the Atomic Energy Commission during the month.

Employee Clearance

Class "Q" clearances received on old employees this month	0
Class "Q" clearances received on old employees to date	4,459
Class "Q" clearances received on new employees this month	32
Class "Q" clearances received on new employees to date	6,288
Class "Q" clearances received on both old and new employees since February 17, 1947	10,747
Formal "P" clearances awaiting change to "Q"	34
Authorization clearances issued this month	63

Statistical Summary of Outstanding Area Badges

	January				February			
	A	B	C	Total	A	B	C	Total
100-B	1709	584	464	2757	1712	622	469	2803
100-D	733	924	508	2165	779	947	515	2241
100-F	706	1052	404	2162	691	1036	409	2186
100-H	717	1678	491	2886	1724	717	508	2949
200-E	871	1761	362	2994*	863	1777	349	2989*
200-W	1359	1673	357	3389	1330	1716	349	3395
200-N	32	873	137	1042	31	866	134	1031
300	1331	1629	239	3199	1329	1656	235	3221
100-DR	452	6		458	791	6		797
Redox					214			214

*Includes 36 "A" badges at Riverland Yards

*Includes 36 "A" badges at Riverland Yards

Plant Security and Services Divisions

Visitor or Temporary Badges

<u>Area</u>	<u>January</u>	<u>February</u>
100-B	505	547
100-D	969	1005
100-F	860	902
100-H	333	387
200-E	729	769
200-W	1048	1114
200-N	706	721
300	1472	1544
100-DR	-	4
Total	6616	6993

Special Clearance Section

Following is a statistical summary of clearance status of vendor and consultant vendor companies:

Total Companies forwarded to AEC this month:	1	Personnel:	3
		Consultant personnel:	1
Total Companies forwarded to AEC last month:	3	Personnel:	4
		Consultant personnel:	1
Total companies forwarded to AEC to date:	218	Personnel:	2,376
Total companies cleared for restricted data this month:	7	Personnel:	19
		Consultant personnel:	4
Total companies cleared for restricted data last month:	4	Personnel:	15
		Consultant personnel:	2

New companies forwarded to the Atomic Energy Commission this month:

Booz, Allen and Hamilton
Chicago, Illinois and New York City

Number and type of clearance granted by the Atomic Energy Commission this month to vendors and consultants:

Formal "P"	6
Formal "Q"	23
Emergency "Q"	2 (GE personnel)

[REDACTED]
 HANFORD WORKS
 General Electric Company
 Richland, Washington

REPORT OF VISITORS FOR PERIOD ENDING FEBRUARY 28, 1950

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Data Class.</u>	<u>Unclass Areas</u>
MEDICAL DIVISION						
I. Visitors to this Works						
W. S. McNary Directory of Michigan Hospital Service Detroit, Michigan	Medical consultation	W. D. Norwood, M.D. P. A. Fuqua	2-10-50	2-12-50	X	100-B-XXX 200-W-XXX 300-303,3706
R. A. Moore Washington University Medical School St. Louis, Missouri	Medical consultation	W. D. Norwood, M.D. P. A. Fuqua	2-10-50	2-12-50	X	100-B-XXX 200-W-XXX 300-303,3706
H. Smith (consultant for self) 4801 Ellis Avenue Chicago, Illinois	Medical consultation	W. D. Norwood, M.D. P. A. Fuqua	2-10-50	2-12-50	X	100-B-XXX 200-W-XXX 300-303,3706
II. Visits to other Installations						
W. D. Norwood, M. D. to: Knolls Atomic Power Lab. Schenectady, New York	Discuss mutual health problems	H. M. Rozendahl	2-19-50	2-20-50	X	
D. H. Eckles to: Division of Biology & Medicine Atomic Energy Commission Washington, D. C.	Information meeting of laboratory and medical directors in biology and medicine	AEC personnel	2-9-50	2-11-50	X	

DECLASSIFIED

[REDACTED]
 DESIGN AND CONSTRUCTION DIVISIONS

I. Visitors to this Works

8642121

- 2 -

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Data Class</u>	<u>Unclasp</u>	<u>Areas</u>
D. H. Marquis Gen. Eng. & Consulting Lab. Schenectady, New York	Design consultation	G. Thayer	2-21-50	3-10-50	X		100-B-105 109-II-105 200-E-XXX 300-3706 200-W-234, 235
R. S. Perry to: Fansteel Metallurgical Corporation Chicago, Illinois	Obtain design information for MJ-3 project	L. R. Scribner	1-26-50	1-31-50		X	
R. S. Perry to: Schutte & Koerting Philadelphia, Pennsylvania	Obtain design information for MJ-3 project	C. G. Batchley	1-26-50	1-31-50		X	
T. Williams to: Crano Company Chicago, Illinois	Design conference on pipe and electrical connector program	P. M. Weiss A. M. Houser	1-27-50	2-6-50		X	
T. Williams to: Pyle-National Coder Chicago, Illinois	Design conference on pipe and electrical connector program	D. E. Packard	1-27-50	2-6-50		X	
J. E. Kaveckis to: Gen. Eng. & Con. Lab. Schenectady, New York	Exchange of information on instrumentation concerning RM Line	H. A. Moulthrop	1-14-50	1-27-50		X	
T. Williams to: Crane Company Chicago, Illinois	Design conference on pipe and electrical connector program	P. M. Weiss A. M. Houser	2-24-50	Still gone		X	
D. E. Irons to: Fluor Corporation Los Angeles, California	Interview Technical personnel to be loaned to General Electric, Hanford	H. J. Cearin	2-24-50	Still gone		X	
C. O. Clemetson to: Kellex Corporation New York, New York	Technical consultation to expedite design of instrumentation	G. White, Jr.	2-27-50	3-4-50		X	

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Name - Organization

G. M. Roy
to: Columbia University
New York, New York

G. M. Roy
to: Gen. Eng. & Cons. Lab.
Schenectady, New York

I. N. Sorrells
to: Seattle, Washington

A. R. Brooks
to: Charles T. Main Company
Boston, Massachusetts

J. R. Thayer
to: Charles T. Main Company
Boston, Massachusetts

H. A. Hauser
to: Charles T. Main Company
Boston, Massachusetts

G. M. Roy
to: Brookhaven Nat'l Lab.
Long Island, New York

II. Visitors to this Works

E. J. Hull
Pacific Pump Company
Portland, Oregon

HEALTH INSTRUMENT DIVISIONS

I. Visitors to this Works

Purpose of Visit

Support of development

Contract DRC-1 (2)
"G" Study consultation

Conference (3rd NW one) - -
on road building

Confer with C. T. Main
on problems arising in
design of C-342 project

Confer with C. T. Main
on problems arising in
design of C-342 project

Expedite problems of
design pertaining to
contract G-274

Heat transfer calculation
techniques

Inspect and make recommenda-
tions concerning pumping equip-F. Tabb
ment furnished by Pacific
Pump Company

Person Contacted

V. Paschis
T. V. Drew

G. R. Rede

- -

M. K. Bryan
R. T. Colburn

M. K. Bryan

M. K. Bryan

W. E. Winsche

D. M. Brown

Arrival

2-3-50

2-3-50

2-5-50

2-20-50

2-20-50

2-20-50

2-8-50

2-15-50

Departure

2-11-50

2-11-50

2-9-50

2-24-50

2-24-50

2-24-50

2-8-50

2-15-50

Restricted Data
Class UnClass Area

X

X

X

X

X

X

X

X 100-F
141-N

DECLASSIFIED

1212499

202

Name - Organization

Purpose of Visit

Person Contacted

Arrival

Departure

Restricted Data Class Unclass Agency

P. J. Persiana Argonne National Laboratory Chicago, Illinois	Discuss and inspect Health Physics installation in production areas	H. M. Parker C. M. Patterson	2-23-50	2-24-50	X	100-H-XXX 200-E-XXX 200-W-XXX 300-3706
M. E. Thsminger Washington State College Pullman, Washington	Biology consultation	K. E. Herde H. A. Kornberg	2-27-50	2-27-50	X	100-F-XXX 300-XXX
P. E. Church University of Washington Seattle, Washington	Meteorology consulta-	D. E. Jenne	2-24-50	2-24-50	X	
II. Visits to other Installations						
R. F. Foster to: University of Washington Seattle, Washington	Inspect biology facilities	L. R. Donaldson	2-16-50	2-17-50	X	
K. E. Herde to: University of Washington Seattle, Washington	Inspect biology facilities	L. R. Donaldson	2-16-50	2-17-50	X	
H. M. Parker West Coast Scientific Conference and present a paper University of California Los Angeles, California	Attend AEC West coast	S. J. Warren	2-1-50	2-3-50	X	
H. M. Parker to: Argonne National Lab. Chicago, Illinois	Attend Radiobiology symposium panel.	H. L. Friedell A. M. Brues J. E. Rose	2-13-50	2-15-50	X	
H. M. Parker to: Knolls Atomic Power Lab. Schenectady, New York	Discuss health physics problems	L. L. Gorman	2-7-50	2-8-50	X	
H. M. Parker to: Memorial Hospital, New York, NY	Discuss health physics		2-9-50	2-9-50	X	

223

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Restricted Data
 Class Unclass Areas

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Class</u>	<u>Unclass</u>	<u>Areas</u>
H. M. Parker to: Division of Biology & Medicine Atomic Energy Commission Washington, D. C.	Attend Laboratory Directors meeting and discuss laboratory programs on biology and medicine	S. Warren	2-9-50	2-11-50	X		
H. A. Kornberg to: West Coast Scientific Con. University of California Los Angeles, California	Attend AEC West Coast Scientific conference and present paper	S. L. Warren	2-1-50	2-3-50	X		
PROJECT ENGINEERING DIVISIONS							
I. Visitors to this Works							
G. A. Anderson Argonne National Laboratory Chicago, Illinois	Installation of first Hanford water cooled pilot channel test rig and information on Project P-13	J. T. Lloyd	1-29-50 2-21-50	2-3-50 Still here	X		100-H 105
L. W. Fromm Argonne National Laboratory Chicago, Illinois	Installation of first Hanford water cooled pilot channel test rig and information on Project P-13	J.T. Lloyd	2-13-50	1 year	X		100-H 105
O. W. Childs Argonne National Laboratory Chicago, Illinois	Installation of first Hanford water cooled pilot channel test rig and information on Project P-13	J. T. Lloyd	2-13-50	Still here	X		100-H 105
II. Visits to other Installations							
W. R. Felts to: Gen. Eng. & Con. Lab. Schenectady, New York	Attend conferences for W. Dunlap G.E.&C.L. and KAPL partici- pation in P-10 extraction		2-6-50	2-10-50	X		
W. R. Felts to: Knolls Atomic Power Lab. Schenectady, New York	Attend conferences for J. Marsden G.E.&C.L. and KAPL partici- pation in P-10 extraction		2-6-50	2-10-50	X		

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1212501

Name - Organization

Purpose of Visit

Person Contacted

Departure

Restricted Data Class Unclass

Ar. 19

MAINEE NCE DIVISION

C. D. Parker
Fifner Bearing Company
Seattle, Washington

Recommendation on
pump house

R. T. Jessen

2-17-50

X

200-W
291-Z

F. B. Chamberlain
Arthur Foreyth Company
Seattle, Washington

Recommendation on
pump house

R. T. Jessen

2-17-50

X

200-W
291-Z

MANAGEMENT

I. Visitors to this Works

J. Marsden
Knolls Atomic Power Laboratory
Schenectady, New York

Consultation

W. I. Patnode

2-27-50

X

300
3706

A. D. Tevebaugh
Knolls Atomic Power Laboratory
Schenectady, New York

Consultation

W. I. Patnode

2-27-50

X

300
3706

II. Visits to other Installations

J. E. Maider, Jr.
to: Los Alamos Scientific Lab. Plant
Los Alamos, New Mexico

Conference on DP West

M. Roy

2-6-50

X

GENERAL ACCOUNTING DIVISION

I. Visits to other Installations

J. P. Holmes
to: Knolls Atomic Power Lab.
Schenectady, New York

Exchange of information R. S. Noblett
regarding budgeting, financing
of materials

2-20-50

2-24-50

X

POWER DIVISION

1212502

DECLASSIFIED

Name - Organization

I. Visitors to this Works

A. H. Y. Hedner
Traveler's Insurance Company
Seattle, Washington

M. Sivetz
Argonne National Laboratory
Chicago, Illinois

"P" DIVISION

I. Visitors to this Works

W. R. Kanne
Knolls Atomic Power Laboratory
Schenectady, New York

"S" DIVISION

I. Visitors to this Works

J. Mursden
Knolls Atomic Power Laboratory
Schenectady, New York

A. D. Tevobaugh
Knolls Atomic Power Laboratory
Schenectady, New York

Purpose of Visit

Company boiler
inspector

Discuss water systems
in production areas

Inspection 100-H Area
and consultation in
300 and 100-H Area

consultation

consultation

Person Contacted

H. F. Measley

H. F. Measley

W. P. McFue

R. S. Bell

R. S. Bell

Arrival

2-23-50

2-23-50

2-21-50

2-27-50

2-27-50

Departure

2-25-50

2-24-50

2-22-50

3-3-50

3-3-50

Restricted Data
Class

Unclass

Areas

X
100-H-XXX
100-B-XXX
100-D-XXX
100-F-XXX
300-XXX
200-E
XXX
200-W
XXX
101

X
100-D
105
100-F
105

X
100-H
105
300-
3706

X
100-B-105
100-D-105
100-F-105
100-H-105
200-N-212-1
200-E
221-B
200-W
221-T

X
100-B-105
100-D-105
100-F-105
100-H-105
200-N-212-P
200-E
221-B
200-W
221-T

DECLASSIFIED

1212503

Name - Organization

PURCHASING AND STORES DIVISION

1. Visitors to this Works

M. K. Kahl

Propane Gas & Equipment Company
Pasco, Washington

W. S. Edwards

West Coast Freight Company
Pasco, Washington

B. Fulks

West Coast Freight Company
Pasco, Washington

J. Price

West Coast Freight Company
Pasco, Washington

C. Frecauff

Lee & Estes
Pasco, Washington

G. Mulholland

Lee & Estes
Pasco, Washington

M. Brill

Lee & Estes
Pasco, Washington

G. Mulholland

Lee & Estes
Pasco, Washington

Restricted Data
Class UnClass Access

Arrival Departure

Person Contacted

Purpose of Visit

X 300-XXX

2-2-50 2-2-50

H. O. Monson

Delivery of propane gas

X 200-W
275-W

2-2-50 2-2-504

H. O. Monson

Delivery of sodium nitrate

X 200-E
275-E

2-3-50 2-3-50

H. O. Monson

Delivery of sodium nitrate

X 200-E
275-E

2-3-50 2-3-50

H. O. Monson

Delivery of sodium nitrate

X 100-H
XXX

2-16-50 2-16-50

H. O. Monson

Delivery of chemicals

X 100-H
XXX

2-17-50 2-17-50

H. O. Monson

Essential materials
on HW-55404-M

X 100-F
189

2-24-50 2-24-50

H. O. Monson

Essential materials
on HW-55404-M

X 100-F
189

2-24-50 2-24-50

H. O. Monson

Essential materials
on HW-55404-M

DECLASSIFIED

1212504

207

Restricted Data
Class Unclass Areas

Name - Organization Purpose of Visit Person Contacted Arrival Departure

I. Visitors to this Works

A. H. Y. Hedner
Traveller's Insurance Company
Seattle, Washington

Boiler house inspection H. A. Hauser

2-23-50 2-24-50

X

II. Visits to other Installations

H. A. Hauser
to: Roberts Filter Company
Philadelphia, Pennsylvania

Expedite delivery of
183-DR Filter Plant

2-13-50 2-24-50

X

H. A. Hauser
to: Charles T. Main Company
Boston, Massachusetts

Expedite delivery
of 183-DR Filter Plant

2-13-50 2-24-50

X

H. A. Hauser
to: Chapman Valve Company
Indian Orchard, Massachusetts

Expedite delivery of
of 183-DR Filter plant

2-13-50 2-24-50

X

H. A. Hauser
to: Philadelphia Gear Works
Philadelphia, Pennsylvania

Expedite delivery of
of 183-DR Filter Plant

2-13-50 2-24-50

X

J. C. Hamilton
to: Crane Company
Chicago, Illinois

Establish inspection
procedures

2-27-50 2-28-50

X

J. C. Hamilton
Pyle-National Company
Chicago, Illinois

Establish inspection
procedures

2-27-50 2-28-50

X

PLANT SECURITY AND SERVICES DIVISION

I. Visits to other Installations

DECLASSIFIED

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Data Class</u>	<u>Unclass</u>	<u>Agency</u>
T. B. Farley to: American Legion Meeting Portland, Oregon	Attend security meeting - of West Coast Conference		2-24-50	2-26-50		X	
E. W. Sutherland to: American Legion Meeting Portland, Oregon	Attend security meeting - of West Coast Conference		2-24-50	2-26-50		X	

DECLASSIFIED

121250b

L. -

Name - Organization

Purpose of Visit

Person Contacted

Arrival

Departure

Restricted Data
Class. Unclass ArCan

TECHNICAL DIVISIONS

I. Visitors to this Works

J. P. Howe Knolls Atomic Power Laboratory Schenectady, New York	Technical consultations A. B. Greninger on fundamental studies in metallurgy work	A. B. Greninger	2-23-50	2-24-50	X	300-3706 321
C. V. Ellison Oak Ridge National Laboratory Oak Ridge, Tennessee	Metal Recovery Program discussion	R. H. Beaton	2-15-50	2-16-50	X	300-3706 200-W 221-T 231
T. C. Runion Oak Ridge National Laboratory Oak Ridge, Tennessee	Metal Recovery Program discussion	R. H. Beaton	2-15-50	2-16-50	X	300-3706 321 200-W 221-T 231
A. Turkevich Argonne National Laboratory Chicago, Illinois	Krypton 85 discussion	R. H. Beaton R. B. Richards	2-16-50	2-17-50	X	AEC request
J. Marsden Knolls Atomic Power Laboratory Schenectady, New York	Redox and metal recovery program meetings	R. H. Beaton R. B. Richards	2-27-50	2-27-50	X	
G. T. Seaborg Radiation Laboratory University of California Berkeley, California	Separations Program discussions	R. H. Beaton	2-27-50	3-1-50	X	AEC request
B. W. Farnes Farnes and Martie Portland, Oregon	Inspection of Fischer and Porter pumps	J. T. Stringer	2-24-50	2-24-50	X	300-3706 321

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1212507

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<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Data</u>	
					<u>Class.</u>	<u>Unclass</u>
R. W. Hartig Farnes and Hartig Portland, Oregon	Inspection of Fischer and Porter pumps	J. T. Stringer	2-24-50	2-24-50	X	300-3706 321
G. H. Adamson Oak Ridge National Laboratory Oak Ridge, Tennessee	Inspection and Consultation	R. E. Nather	2-13-50	2-14-50	X	300-3706 303 Excl. 100-H
L. W. Cronin Argonne National Laboratory Chicago, Illinois	Consultation on AML-140	J. B. Lambert	2-13-50	One Month	X	300-3706 101 100B-105 100D-105 100F-105 100H-105
G. A. Anderson Argonne National Laboratory Chicago, Illinois	Consultation on AML-140	J. B. Lambert	2-20-50	One Month	X	300-3706 100B-105 100F-105 100H-105
O. M. Childs Argonne National Laboratory Chicago, Illinois	Consultation on AML-140	J. B. Lambert	2-20-50	One Month	X	300-3706 100D-105 100F-105 100H-105
H. D. Fitzsimmons Argonne National Laboratory Chicago, Illinois	Consultation on AML-140	J. B. Lambert	2-20-50	One Month	X	300-3706 100D-105 100F-105 100H-105
F. L. Kleimola Argonne National Laboratory Chicago, Illinois	Consultation on AML-140	J. B. Lambert	2-20-50	One Month	X	300-3706 100B-105 100F-105 100H-105

DECLASSIFIED

<u>Name - Organization</u>	<u>Purpose of Visit</u>	<u>Person Contacted</u>	<u>Arrival</u>	<u>Departure</u>	<u>Restricted Class.</u>	<u>Unclass Areas</u>
R. A. Stella Argonne National Laboratory Chicago, Illinois	Consultation on ANL-140	J. B. Lambert	2-20-50	One Month	X	300-3706 100D-105 100F-105 100H-105
R. A. Koehler General Engineering & Consulting Laboratory Schenectady, N. Y.	P-10 Consultation	A. A. Johnson	2-21-50	2-24-50	X	300-3706 100B-105
D. H. Marquis General Engineering & Consulting Laboratory Schenectady, N. Y.	P-10 Consultation	A. A. Johnson	2-21-50	2-24-50	X	300-3706 100B-105
Z. D. Sheldon Knolls Atomic Power Laboratory Schenectady, N. Y.	P-10 Consultation	A. A. Johnson	2-20-50	2-24-50	X	300-3706 100B-105
William Blinder Knolls Atomic Power Laboratory Schenectady, N. Y.	Make Experimental measurements on irradiated material.	R. L. Dickeman	1-24-50	3-3-50	X	300-3706 100B-105 100D-105 100F-105 100H-105
J. P. Howe Knolls Atomic Power Laboratory Schenectady, N. Y.	Metallurgical Con- sultation	R. Ward	2-23-50	2-24-50	X	300-3706
II. Visits to Other Installations						
J. B. Work to: Los Alamos Scientific Lab. Los Alamos, New Mexico	234-5 Consultations	Max F. Roy	2-8-50	2-10-50	X	

DECLASSIFIED

1212509

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Name - Organization

Purpose of Visit

Person Contacted

Arrival

Departure

Restricted Data Class. Unclass Areas

M. Lewis
to: Louisiana State University
Baton Rouge, Louisiana

Attend Symposium on
Modern Methods of
Analytical Chemistry

2-1-50

2-2-50

X

A. H. Bushey
to: Knolls Atomic Power
Laboratory
Schenectady, N. Y.

Discuss developments in J. Marsden
analytical chemistry, J. F. Flagg
and new counting equip-
ment. W. R. Kanne

2-13-50

2-14-50

X

A. H. Bushey
to: G.E. Research Laboratory
Schenectady, N. Y.

Discuss developments
in analytical
chemistry.

2-14-50

2-14-50

X

A. H. Bushey
to: Pittsburgh, Pa.

Pittsburgh Analytical
Symposium

2-15-50-

2-17-50

X

A. H. Bushey
to: University of Chicago
Chicago, Illinois

Technical recruitment

2-20-50

2-21-50

X

A. H. Bushey
to: University of Wisconsin
Madison, Wis.

Technical recruitment

2-20-50

-2-21-50

X

M. C. Lambert
to: Schenectady, N. Y.

Spectrophotometer
Service Conference

2-27-50

2-28-50

X

C. C. Stevenson

Discuss technical
information problems.

2-23-50

2-24-50

X

to: Argonne National Laboratory
Chicago, Illinois

C. G. Stevenson

Meeting of Technical
Information Panel

2-27-50

2-28-50

X

to: Hound Laboratory
Harrisburg, Ohio

DECLASSIFIED

Restricted Data
Class. Unclass Areas

Name - Organization Purpose of Visit Person Contacted Arrival Departure Class. Unclass Areas

F. D. Quinlan
to: Penberthy Instrument Co.
Spokane, Washington

X

2-20-50

2-20-50

Larry Penberthy

Technical discussions
regarding special
laboratory equipment

P. F. Gast
to: Knolls Atomic Power Lab.
Schenectady, N. Y.

X

2-6-50

2-6-50

Harvey Brooks

Discussions on
P-10 studies

P. F. Gast
to: Atomic Energy Commission
Washington, D. C.

X

2-8-50

2-8-50

Walter Williams

Discussions on
P-10 Studies

P. F. Gast
to: General Engineering &
Consulting Lab.
Schenectady, N. Y.

X

2-9-50

2-9-50

Donald Egnor

Consultation on
234-5

A. A. Johnson
to: Knolls Atomic Power Lab.
Schenectady, N. Y.

X

2-6-50

2-6-50

J. P. Howe

P-10 Studies

M. M. Carbon
to: Knolls Atomic Power Lab.
Schenectady, N. Y.

X

2-6-50

2-6-50

J. P. Howe

P-10 Studies

E. P. Warekois
to: Knolls Atomic Power Lab.
Schenectady, N. Y.

X

2-6-50

2-6-50

J. P. Howe

Graphite Consulta-
tion

M. T. Kattner
to: Simonds Saw & Steel Co.
Lockport, N. Y.

X

2-13-50

2-13-50

A. D. Potts

Observe special
fabrication

F. E. Kruesi
to: Oak Ridge National Laboratory
Oak Ridge, Tennessee

X

2-13-50

2-13-50

A. D. Callihan

Consultation on
P-10 problems

PURCHASING AND STORES DIVISIONS
SUMMARY
FEBRUARY, 1950

Personnel of the Purchasing and Stores Divisions showed a net increase of four people as indicated by the tabulation below:

	<u>Total Personnel as of 1-31-50</u>	<u>Total Personnel as of 2-28-50</u>	<u>Net Change</u>
Exempt	53	53	0
Non-Exempt	234	238	Plus 4
TOTALS	287	291	Plus 4

The work load in the Purchasing Division increased materially. The number of requisitions on hand at month end was 969 which represented an increase of approximately 80 per cent.

Authority was received to proceed with procurement for Project MJ-1 on February 3, 1950.

An order was placed with the Roberts Filter Manufacturing Company amounting to approximately \$675,000. The need for this equipment was so urgent that it was deemed advisable to send the Purchasing Agent to the Roberts Plant at Darby, Pennsylvania for the purpose of aiding in the scheduling and expediting the delivery of this equipment.

We were able to maintain through the medium of spot purchases an average of two months' supply of coal despite the National strike.

Quotations were obtained on our rather large requirements for Aluminum Nitrate and forwarded to the Commission for approval. Indications were that it would be necessary for the successful vendor to construct additional production facilities either at Sunnyside, Washington or Kennewick, Washington to take care of our needs.

Stores active inventories were reduced by \$45,120.35.

1,791 purchase requisitions were screened resulting in the supplying of 741 items from plant inventories thus obviating the expenditure of new funds.

An audit of the Stores Division's scrap sales procedure was completed by the Accounting Division.

As a result of rate reductions obtained from carriers, total savings in freight charges for the month amounted to \$43,607.29.

PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION
FEBRUARY, 1950

GENERAL

The work load increased materially during the month. 1,337 purchase orders were placed as compared to 1,299 placed in January. 2,454 purchase requisitions were received and assigned as compared with 2,106 during January. Requisitions on hand at month end totaled 969 as compared with 570 at the end of the previous month.

On February 3, authority was received to proceed with procurement for Project MJ-1. Orders were placed immediately for those requisitions on which preliminary work had been done prior to the release. Many new requisitions were received and work is progressing satisfactorily.

On February 13, the Purchasing Agent made a trip to Roberts Filter Manufacturing Company in Philadelphia, Pennsylvania for the purpose of scheduling and expediting delivery of the 183-DR Filter Plant equipment purchased on HWC-8110. Arrangements were also made allowing the General Electric Company to furnish material available from plant stock and receive credit on the order for the dollar value of the material furnished, the dollar value to be determined from a priced Bill of Material submitted by the Roberts Filter Manufacturing Company.

The major part of the coal industry was closed down by strikes during all but a few days of the month. Some coal was shipped prior to the closing of the Union mines and we were able to supplement this tonnage from non-U.M.W. mines. In addition a spot purchase of 40,000 tons was made for delivery of 10,000 tons per week during March which will prevent depletion of reserve stocks. At month end we had on hand approximately two months' supply.

Quotations were received on our requirements for Aluminum Nitrate. After evaluation, our recommendation was forwarded to the Commission for approval.

Additional specifications on new materials for both MJ-1 and MJ-4 were received and market surveys are in progress to determine the supply available and approximate costs.

Invitations to bid were mailed requesting quotations on our estimated requirements of Nitric Acid and Ammonium Silico Fluoride.

PERSONNEL

	<u>Total Personnel as of 1-31-50</u>	<u>Total Personnel as of 2-28-50</u>	<u>Net Change</u>
Exempt	26	27	Plus 1
Non-Exempt	27	28	Plus 1
TOTALS	<u>53</u>	<u>55</u>	<u>Plus 2</u>

SAFETY AND SECURITY

Safety and Security Meetings scheduled	2
Number of Employees attending	55
Minor Injuries	0

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PURCHASING AND STORES DIVISIONS
PURCHASING DIVISION

STATISTICS

	<u>G</u>	<u>D</u>	<u>Total</u>
Requisitions on hand 1-31-50 (includes 24 assigned to Govt.)	503	67	570
Requisitions assigned during February	2,242	212	2,454
Requisitions placed during February	1,888	167	2,055
Requisitions on hand 2-28-50 (includes 139 assigned to Govt.)	857	112	969

	<u>Number</u>	<u>Value</u>
HW Orders placed	1,220	\$543,658.21
HW Alterations placed	129	12,714.12 Cr.
Total	<u>1,349</u>	<u>\$530,944.09</u>

HWC Orders placed	117	617,533.59
HWC Alterations placed	16	114,822.11
Total	<u>133</u>	<u>\$732,355.70</u>

AEC Orders placed	95	59,422.65
DC Orders placed	6	23,667.87

Government Transfers	<u>OR</u>	<u>ORC</u>	<u>Total</u>
	5	0	5

Open Orders

HW Orders	922
HWC Orders	133
Govt. Orders	27

Number of new orders requiring inspection during month	26
Number of orders requiring inspection completed during month	16
Number of orders outstanding requiring inspection at month end	67
HW Orders expedited (Special Request)	215
HW Orders expedited (Routine)	450
HWC Orders expedited (Routine)	133

PURCHASING AND STORES DIVISIONS
STORES DIVISION
FEBRUARY, 1950

GENERAL

Materials valued at \$122,834.65 were declared excess from Stores active inventories during the month. This was accomplished by the excessing of materials representing more than a year's supply and by the deletion of 242 obsolete stock items. As a result, total Stores inventories were reduced by \$45,120.35.

1,791 purchase requisitions were processed through screening and 741 items were furnished from plant inventories.

The screening of purchase requisitions originating in all divisions as well as various subcontractors was improved and considerably streamlined.

An inventory of aluminum tubes stored in the 100-D Area was started during the month. This inventory will be submitted to the Maintenance Division for review and instruction as to ultimate disposition.

The program for review of slow, nonmoving, and obsolete items currently in active inventories was approximately 80 per cent complete at month end.

The disbursement of materials held for construction use to subcontractors accelerated during the month. We were advised by one of the subcontractors that their withdrawals of pipe, valves, and fittings will materially increase as soon as certain craftsmen have been placed on their rolls.

The warehousing study progressed satisfactorily and will be presented to the Commission within the next few weeks.

Forty-six formal excess lists totaling \$5,571,597.70 were turned over to the Commission during the month and 145 shipping orders were processed. Materials and equipment valued at \$492,676.09 were removed from Excess and returned for use on the Project.

194 representatives of government and private businesses were escorted through our warehouses and scrap yards for the purpose of negotiating the purchase of scrap and the transfer of excess property.

Thirty-two scrap tract houses were sold during the month totaling \$14,181.98.

Twenty-one scrap buildings located at Columbia Camp were turned over to Excess by the Commission and will be disposed of within the next thirty days.

An audit of Stores Division scrap sales procedures was completed by the Accounting Division during the month. The audit report stated that the entire operation was well controlled and completely satisfactory from an accounting standpoint.

PERSONNEL

	<u>Total Personnel</u> as of 1-31-50	<u>Total Personnel</u> as of 2-28-50	<u>Net Change</u>
Exempt	22	21	Minus 1
Non-Exempt	199	202	Plus 3
TOTALS	<u>221</u>	<u>223</u>	<u>Plus 2</u>

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PURCHASING AND STORES DIVISIONS
STORES DIVISION

SAFETY AND SECURITY

Safety and Security Meetings scheduled	10
Number of Employees attending	198
Minor Injuries	5

STATISTICS

Construction Materials Inventory Control

Items in Stores Stock (Estimated)	52,286
Store Orders filled	7,288
Number of requisitions screened - A.J.	149
Number of requisitions screened - G.E.	941
Number of items furnished from stock	790
Value of material offered by screening	\$ 86,363.51
Value inventories at month end	\$10,694,991.02
Value of Disbursements	509,739.62

Inventory Control

Number of items added to Stores stock	19
Number of items deleted from Stores stock	242
Items in Stores stock at month end	47,865
Store orders filled	20,153
Number of requisitions screened this month	1,791
Number of items furnished from plant sources this month	741
Inventory valuation (903 - all captions, 906 & 912)	\$ 1,452,078.14
Inventory valuation (Spare Parts) at month end	1,633,386.64
Total value inventories at month end, including Spare Parts	3,085,464.78
Value of disbursements, not including cash sale items	190,805.68*
Value of Cash Sales	645.62
Value of materials declared excess	122,834.65
Value of materials returned to Stores stock for credit	1,123.14

* Includes \$6,958.43 disbursed to Construction & CPPF subcontractors

Receiving, Warehousing & Disbursing

Receiving Reports issued	3,122
Emergency store orders filled	8
Returnable containers on hand at month end	6,527
Returnable containers on hand over six months	1,603
Shipments processed (containers and material)	217

Surplus, Salvage & Scrap

Excess Account 10.10 Balance	\$19,648,975.87
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Receipts 1-25-50 to 2-25-50

Lumber	\$19,398.89
Automotive Equipment	60,437.12
Machine tools and equipment	7,958.69
Office Furniture, machines	11,521.01
Household Furniture, etc.	2,861.01
Material and supplies	88,804.14
Miscellaneous Equipment	15,435.23
	\$206,416.09

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206,416.09
<u>\$19,855,391.96</u>

PURCHASING AND STORES DIVISIONS
STORES DIVISION

STATISTICS (Cont.)

Surplus, Salvage & Scrap (Cont.)

Disbursements 1-25-40 to 2-25-50

On Project

Lumber	\$ 6,295.46
Process Equipment	2,440.00
Automotive Equipment	257,215.41
Machine Tools & Equipment	11,560.77
Office Furniture, Machines	4,377.79
Household Furniture, etc.	643.22
Material and Supplies	42,034.44
Miscellaneous Equipment	168,104.00

Off Project

Lumber	24,851.70
Automotive Equipment	184,910.14
Machine Tools & Equipment	8,268.00
Office Furniture, Machines	33,901.75
Household Furniture, etc.	6,981.21
Material and Supplies	49,723.05
Miscellaneous Equipment	56,691.48
	\$ <u>858,003.42</u>

858,003.42

Balance of Account No. 10.10 as of 2-25-50

\$18,997,388.54

(See attached list for breakdown of materials in this account by classification)

Total Receipts to Date

\$29,236,114.87

Total Disbursements to Date

10,238,726.33

Scrap and Salvage Disbursed

Scrap Sales Completed	30
Scrap Sales in Process	3
Scrap Sale Revenue for the month	\$14,246.72
Total Scrap Sale Revenue to date	\$39,406.81

PURCHASING AND STORES DIVISIONS
STORES DIVISION

RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10

<u>Class</u>	<u>Description</u>	<u>Monetary Value</u>
1	Gun Emplacements, Fire Control Instruments	1.25
2	Small Arms	1,421.16
3	Lethal Device Equipment	10.00
4	Ammunition	83.62
5	Flags, Bunting, Pennants, etc.	168.00
7	Fuel	641.46
8	Motor Vehicles: Electric Trucks, Tire Tubes	700,690.24
9	Boats	62.00
10	Outboard Motors and all Accessories	4,859.48
11	Pumps and Pump Parts	164,615.96
12	Marine Hardware	2,299.62
13	Engine and Fireroom Fittings	5,807.69
14	Lubricants	28,284.74
15	Electric Cable and Insulated Wire	49,361.89
16	Radio and Sound Signal Apparatus	26,074.13
17	Electric Apparatus	1,670,829.37
18	Instruments of Precision and Photographic Equipment	71,076.56
19	Blocks	36,302.30
21	Cordage: Hemp, Jute Oakum, Twine, etc.	16,367.58
22	Wire Rope, Bare Wire, etc.	51,956.63
24	Canvas, Duck, Tentage, etc.	17,069.72
23	Furniture	255,837.59
27	Textiles: Thread, Findings, Floor Coverings	440,270.59
29	Toilet Articles	7,708.98
30	Bathroom and Toilet Fixtures	60,290.08
31	Non-Electric Lighting Apparatus	1,868.57
32	Fire-Surfacing and Heat Insulating Materials	57,404.06
33	Gaskets, Hose, Packing, Sheet and Strip Rubber, Hose Fittings, Flexible Tubing	136,608.99
34	Belting, Harness (Leather) etc.	5,937.02
37	Special Wearing Apparel and Athletic Equipment	131,994.90
38	Brooms and Brushes	5,287.01
39	Lumber	998,407.11
40	Machine Tools	718,608.71
41	Hand Tools	455,924.84
42	Builders and General Hardware	247,263.61
43	Bolts, Nuts, Rivets, Screws, Washers, etc.	381,504.85
44	Pipe and Non-Flexible Tubes and Tubing	1,073,116.31
45	Pipe Fittings	2,509,275.72
46	Metal in Bars, including Flat, Hexagon	166,950.56
47	Metal in Plates and Sheets	41,577.33
48	Metal Shapes and Structural	46,394.68
51	Acids, Chemicals, etc.	86,915.52
52	Paints and Paint Ingredients	159,018.04
53	Pens, Pencils, Paper, etc.	34,097.24
54	Office Equipment	86,171.20

PURCHASING AND STORES DIVISIONS
STORES DIVISION

RECAPITULATION BY CLASSIFICATION OF ACCOUNT 10.10

<u>Class</u>	<u>Description</u>	<u>Monetary Value</u>
55	Clothing	6,036.14
57	Laboratory Equipment	51,791.73
58	Fire Fighting Apparatus; Railway Equipment Prefabricating Buildings, etc.	375,776.57
59	Building Materials: Asphalt, Bricks, etc.	178,977.02
60	Boilers and Power Plants	136,228.33
63	Tableware	1,188.74
64	Kitchen Utensils and Apparatus	51,058.63
65	Ovens, Ranges, Stoves, etc.	20,693.02
66	Machinery: Pneumatic Tools, etc.	481,683.58
69	Animal and Hand-Drawn Vehicles	15,174.73
70	Agricultural Implements	1,530.66
71	Badges, Insignia and Medals	1,602.00
72	Leather Boots and Shoes, Leather Clothing, etc.	7,009.47
74	Infantry and Landing Force Equipment	630.93
78	Motorized Equipment & Heavy Construction Equipment	6,711,459.75
83	Airplane Accessories, Equipment & Parts	130.33
	Total Account 10.10 as of February 25, 1950	\$18,997,388.54

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION
FEBRUARY, 1950

GENERAL

Upon advice from the Purchasing Division that 10,000 tons of coal were available for purchase at Colstrip, Montana, an emergency proposal was submitted to the rail carriers to publish a rate of \$5.51 per ton from Colstrip, Montana to Hanford, Washington. This proposal received favorable action and the rate was published on one day's notice, resulting in a savings of \$3.66 per ton, or \$36,600 on this purchase.

Due to the coal strike, the Milwaukee Road appropriated 35 cars of our steam coal enroute from Kleenburn, Wyoming to Hanford for use in coal-burning engines on branch lines in Montana. Twelve more cars were held for ten days at Butte, Montana for possible appropriation but upon contacting the General Manager of the Milwaukee regarding this, he ordered the cars released and it appears that no further appropriation will be effected.

Through better utilization of manpower, the Traffic Section was able to reduce their personnel by transferring one Traffic & Rates Clerk B to the Stores Division.

As a result of rate reductions obtained from the carriers, there was a total savings in freight charges for the month of February amounting to \$43,607.29. This makes a total savings from September 1, 1946 to date of \$1,181,069.97.

PERSONNEL

	<u>Total Personnel as of 1-31-50</u>	<u>Total Personnel as of 2-28-50</u>	<u>Net Change</u>
Exempt	2	2	0
Non-Exempt	7	6	<u>Minus 1</u>
TOTALS	9	8	<u>Minus 1</u>

SAFETY AND SECURITY

Safety and Security Meetings scheduled	1
Number of Employees attending	7
Minor Injuries	0

STATISTICS

Savings Report

1. Rate reductions obtained from the carriers:

<u>Commodity</u>	<u>Origin</u>	<u>Savings for February</u>	<u>Savings 9-1-46 through 1-50</u>	<u>Total Savings 9-1-46 to date</u>
Acid, Nitric	Dupont, Wash.	\$ 1,826.50		
Acid, Sulphuric	Dupont, Wash.	183.78		
Gas, Chlorine	Tacoma, Wash.	45.00		
Coal, Mine Run	Colstrip, Mont.	35,815.15		
Soda, Caustic	Willbridge, Ore.	2,035.81		
Ferric Sulphate	Stege, Calif.	3,701.05		
		<u>\$43,607.29</u>	<u>\$1,137,462.68</u>	<u>\$1,181,069.97</u>

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Cont.)

Savings Report (Cont.)

	<u>Savings for February</u>	<u>Savings 9-1-46 through 1-50</u>	<u>Total Savings 9-1-46 to date</u>
2. Freight Bill Audit	\$ 140.06	\$ 45,876.13	\$ 46,016.19**
3. Loss & Damage and Overcharge Claims	757.01	91,481.39	92,238.40
4. Ticket Refund Claims	45.19	7,442.73	7,487.92
5. Household Goods Claims	23.37	13,820.34	13,843.71
	<u>\$44,572.92</u>	<u>\$1,296,083.27</u>	<u>\$1,340,656.19</u>

** Includes \$19,495.23 for the AEC

Work Volume Report

Reservations Made	Rail	45
	Air	75
	Hotel	68
Expense Accounts Checked		128
Household Goods and Automobiles	Movements Arranged Inbound	7
	Shipments Traced	4
	Insurance Riders Issued	11
	Furniture Repair Orders	1
	Claims Collected - Number	3
	Claims Collected - Amount	\$ 23.37
Ticket Refund Claims	Filed	15
	Collected - Number	9
	Collected - Amount	\$ 45.19
Freight Claims	Filed	13
	Collected - Number	10
	Collected - Amount	\$757.01
Freight Bill Audit Savings		\$140.06
Freight Shipments Traced		73
Quotations	Freight Rates	150
	Routes	101

PURCHASING AND STORES DIVISIONS
TRAFFIC SECTION

STATISTICS (Cont.)

Work Volume Report (Cont.)

Bills Approved	Air Freight	2	
	Boat Shipment	3	
	Air Express	4	
	Carloading	68	
	Express	125	
	Rail	358	
	Truck	181	
Carload Shipments	Inbound - GE	424	
	Others	28	
	Outbound - GE	90	
	Others	0	
<u>Report of Carloads Received</u>			
Atkinson & Jones Construction Company	Merchandise	1	
	Steel	2	
E. J. Hauserman	Steel Partitions	4	
Richland Transportation Company	Coal	<u>21</u>	28
General Electric Company	Asphalt	1	
	Caustic Soda	11	
	Cement	15	
	Chemicals	3	
	Chlorine, Liquid	1	
	Coal	353	
	Electrical Equipment	1	
	Express	2	
	Ferric Sulphate	5	
	Ferrous Ammonium Sulphate	1	
	Lime	1	
	Merchandise	3	
	Nitric Acid	14	
	Oxalic Acid	1	
	Petroleum Oil	1	
	Phosphoric Acid	1	
	Pipe Fittings	1	
	Salt	5	
	Soda Ash	1	
	Sulphuric Acid	2	
	Tables	<u>1</u>	<u>424</u>
Total Entire Project			452

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

SUMMARY -- FEBRUARY, 1950

A total of 1,349 applicants were interviewed during February, 304 of which were individuals who applied for employment with the Company for the first time. In addition, 321 new applications were received through the mail. Open requisitions increased from 86 at the beginning of the month to 103 at the end of February. Total plant personnel increased from 7,431 to 7,464. Turn-over rate, including terminations due to lack of work, was .94%. Turn-over rate, exclusive of terminations due to lack of work, was .899%. A visit was made to the Yakima Valley Junior College, Yakima, Washington, and the Central Washington College of Education, Ellensburg, Washington, in order to ascertain the availability of persons who have had two years college education to fill positions in Health Instrument and Technical Divisions. Recruitment of stenographers was conducted in San Francisco and Los Angeles, California. This recruitment, coupled with that conducted previously in the Northwest, has resulted in 43 stenographers being obtained.

The Instructions Letter on "Procedure for Disciplinary Action" was distributed to all supervisors during February. 82 visits were made to employees off work because of illness. Two employees retired and one employee death occurred during the month. Organization was developed to handle the Red Cross Drive. Insurance claim forms were distributed to Our Lady of Lourdes Hospital in Pasco, Washington. 20 suggestion awards, totalling \$ 300, representing an estimated savings of \$ 3,456, were granted to employees during the month. The largest award was \$100, given to a Maintenance Division employee. Two Workman's Compensation hearings were attended during February.

45 supervisors participated in the 40-Hour Supervisors Training Program during February. Luncheon was given on the last day of this Program for the participating supervisors with several members of Management as guests. Current Event Program on Economics was presented to supervisors during a three-week period in February with 518 supervisors in attendance. Programs on the importance of accountability for source and fissionable material were prepared for dissemination to those Divisions handling this material, and were presented to 32 employees in the Technical Divisions. A Representative of the Training and Program Development Group addressed the Richland Chamber of Commerce on February 14, 1950.

Employee and Community Relations Division

Meetings were held between NLRB representatives, the Company and representatives of the Hanford Industrial Firemen's Union for the purpose of setting up the consent election, which was conducted on February 23 and 24. The results of the election indicated that the Industrial Firemen desired representation by the Hanford Atomic Metal Trades Council. The Technical Engineers and Architects Assn. withdrew their petition without prejudice the day before the scheduled hearing. In preparation of the possible renegotiation of the HAMTC - GE Agreement, an analysis of the Articles of the Agreement, all grievances and instructions letters was begun. Two meetings were held with the Council Grievance Committee. Outside personal contact was completed in connection with the annual Northwest Wage Survey. An analysis of the survey figures in connection with the comparison of the rates paid General Electric Company employees with the wage rates paid by participating concerns in the Survey was started. A series of conferences were held with A.E.C. authorities relative to a submitted request for authorization to pay a number of employees specific amounts of money due them as a result of the application of the new nonunit progression schedule.

Public information activities of the Nucleonics Department News Bureau during the month of February included the release of 15 news stories to the "local list". In addition, the list of 72 newspapers, wire services, and radio stations in the Pacific Northwest received 9 news releases.

Special requests for information to be used in news stories continued to occupy a large part of the time of News Bureau personnel during the month of February. Twelve news stories were prepared in reply to requests received from the TRI-CITY HERALD, 7 for the Richland VILLAGER, and 2 for the Spokane CHRONICLE representative in Richland.

A special feature story concerning Hanford Works Security Patrolmen, written at the request of the Richland VILLAGER, was also sent to papers in Yakima, Spokane, and Walla Walla.

Special Programs completed the design of special Security reminder disks for the Hanford Works telephones and the order was placed through the Purchasing Division during the month.

Other Special Programs assignments during the month included design and production of the Hanford Works Safety Topic of the Month poster for March, the cover for the March safety meeting discussion material booklet, the four covers for use in the forthcoming Richland telephone directory, editorial work, design and photography work for a special supplement to Hanford Works NEWS commemorating the 100-D Area's third injury-free year, as well as special safety citation cards for distribution to employees of 100-D Area, and two letters for the General Manager's signature which were distributed to all Hanford Works employees.

Four issues of the Hanford Works NEWS were published during February and "Candid Camera" was inserted in the February 3 issue. The WORKS NEWS was instrumental during the month in carrying to all Hanford Works employees the message the General Manager had presented earlier during a special supervisors' meeting.

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Employee and Community Relations Division

The WORKS NEWS also published during the month a special issue devoted to Valentine's Day, and served community programs through publicity concerning the observance of National Boy Scout Week, and the Red Cross Drive.

A new feature, the responsibility of the Women's Feature Writer, was introduced in the WORKS NEWS during February. It is called "What's Doing", and provides a chatty schedule of events approximately one week in advance as a service to readers of the plant newspaper who are seeking recreation in Richland.

A program of publicity for the Community Activities Division "Kite Flying Contest", was designed by the Community Divisions Public Information Supervisor and approved by the Community Activities Division during the month. In addition, this Supervisor assisted in preparing an up-to-date description of Richland, Washington, for use by the Employment Division in corresponding with prospective employees of Hanford Works.

A threat to poison 1,000 dogs in Richland received the attention of the Community Divisions Public Information Supervisor and a method of answering residents' questions concerning it was designed and agreed to by the Richland Patrol Division Chief.

A considerable increase has been experienced in the requests for institutional motion pictures received by Public Functions and Services, necessitating the setting up of more detailed schedule records and sending out of additional information concerning movies available.

The Public Functions and Services Supervisor discussed radio program possibilities with the management of three radio stations in this area during the month and found them very receptive to the services he proposes to offer.

Sixty-nine photo assignments were completed by the Hanford Works Photo House during the month, an increase of 29 over the previous month. Color photography service, rendered primarily to Kadlec Hospital, increased approximately 50 per cent over the previous month.

EMPLOYEE AND COMMUNITY RELATIONS DIVISIONS

FEBRUARY, 1950

ORGANIZATION AND PERSONNEL

Employee Relations

Employment:

Effective February 13, 1950, a Messenger in the Investigations and Files Group was transferred to the Technical Divisions and upgraded to a Stenographer-Typist "D".

Effective February 23, 1950, a Stenographer-Typist "B" was employed in the Investigations and Files Group as a replacement for the Stenographer-Typist "B" who was transferred to the Maintenance Division effective February 27, 1950, and upgraded to a Stenographer-Typist "A".

Employee Services:

There were no organization changes in this group during the month of February.

Training and Program Development:

There were no organization changes in this group during the month of February.

Union Relations and Wage Rates

Effective February 1, 1950, Benj K. Phillips, Assistant Manager, was transferred from the Design and Construction Divisions to this Division to handle Union Relations for sub-contractor personnel.

Effective February 6, 1950, a Stenographer-Typist "A" was transferred to this Division from the Design and Construction Divisions.

Effective February 20, 1950, Clement J. Sheeran was transferred from Purchasing and Stores Division as a Staff Assistant.

Community Relations

Effective February 13, 1950, a General Clerk "B" was employed to replace a General Clerk "B", who terminated voluntarily effective February 24, 1950.

Effective February 17, 1950, a Publicity Writer was employed for the News Bureau.

Employee and Community Relations Division

Number of employees on payroll	<u>February, 1950</u>
Beginning of the month	82
End of the month	<u>82</u>
Total Change	0

Employee and Community Relations Divisions

ACTIVITIES

Employee Relations

Employment:

	<u>January, 1950</u>	<u>February, 1950</u>
Applicants interviewed	1,298	1,349

304 of the above applicants interviewed in February were individuals who applied for employment with the General Electric Company for the first time. 321 new applications were received through the mail.

Open Requisitions:	<u>January, 1950</u>	<u>February, 1950</u>
Exempt	1	1
Nonexempt	86	103

Of the 86 open, nonexempt requisitions at the beginning of the month, 53 were covered by interim commitments. Of the 103 open, nonexempt requisitions at the end of the month, 66 were covered by interim commitments. In addition, 1 exempt requisition was being processed at the end of the month.

	<u>January, 1950</u>	<u>February, 1950</u>
Employees added to the rolls	102	103
Employees removed from the rolls	<u>76</u>	<u>70</u>
Net gain or loss	+ 26	+ 33

Of the 70 employees removed from the rolls during February, 3 were terminated due to lack of work of which all were outside of the bargaining unit.

Turn-over:	<u>January, 1950</u>		<u>February, 1950</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Including employees laid off for lack of work	.87 %	1.67 %	.484%	.45 %
Excluding employees laid off for lack of work	.57	1.4	2.83	2.75

Over-all plant turn-over:	<u>January, 1950</u>	<u>February, 1950</u>
Including employees laid off for lack of work	1.02 %	.94 %
Excluding employees laid off for lack of work	.73	.899

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Employee and Community Relations Divisions

At the end of February, there were 733 employees in lack of work status divided into the following categories:

	<u>January, 1950</u>	<u>February, 1950</u>
Nonbargaining unit employees	507	503
Bargaining unit employees	<u>240</u>	<u>230</u>
Total	747	733

During the month of February, 19 new requests for inter-Divisional transfers were received and reviewed by the Employment Office. Transfers were effected for a total of 9 employees as a result of these requests. In addition, 6 transfers were effected for employees who had received notice of termination due to lack of work.

During February letters were written to 28 former employees who are in lack of work status, informing them of the general activity from an employment standpoint since the dates of their removals.

Effective February 20, 1950, H.W. Instructions Letter No. 141, entitled "Policy on Employment of Individuals Relieved From the Armed Services", was prepared and issued.

As a result of an apparent need for the procurement of individuals who have had two years college education to fill such positions as inspectors in the Health Instrument Division, and possibly laboratory assistants in the Technical Division, a visit was made to Yakima Valley Junior College, Yakima, Washington, and Central Washington College of Education, Ellensburg, Washington, on February 23 by Mr. P. A. Bundy, Supervisor in charge of Employment, Nonexempt Personnel, and Mr. R. E. Curtis of the Technical Personnel Office. This visit was made for the purpose of informing Placement Officers of these two institutions of our current needs for this type of personnel, and to ascertain the availability of such individuals. This visit indicated that both of these institutions have very modern facilities, and assurance was given by representatives that they desire to cooperate in every way possible.

As a result of recent recruiting in Los Angeles and San Francisco, California, together with the recruiting previously done in cities of the Northwest, as well as Denver, Colorado, all requisitions for stenographers were filled except 11. As against these 11 unfilled requisitions, 25 stenographic applicants are presently in process. Results of the Los Angeles and San Francisco recruitment trip are as follows:

	<u>Los Angeles</u>	<u>San Francisco</u>
Total stenographers interviewed	16	18
Total offers made	16	4

The screening of candidates by the California State Employment Service, particularly in Los Angeles, was excellent.

Employee and Community Relations Divisions

Employment Statistics:

<u>Number of Employees On Rolls</u>	<u>1-31-1950</u>	<u>2-28-1950</u>
Exempt	1,630	1,639
Nonexempt	<u>5,801</u>	<u>5,825</u>
TOTALS	7,431	7,464

ADDITIONS

	<u>Exempt</u>	<u>Nonexempt</u>	<u>Total</u>
New Hires	7	61	68
Re-engaged	1	14	15
Re-activations	4	14	18
Transfers (from other plants)	<u>2</u>	<u>0</u>	<u>2</u>
Actual Additions	14	89	103
Payroll Exchanges	<u>7*</u>	<u>0</u>	<u>7</u>
Gross Additions	21	89	110

TERMINATIONS

Actual Terminations	8	29	37
Renovals from Roll	4	29	33
Payroll Exchanges	<u>0</u>	<u>7**</u>	<u>7</u>
Gross Terminations	12	65	77

Approximately 71% of all terminations were on a voluntary basis, and most of these were for the following reasons: (a) Another job (b) Personal reasons.

GENERAL

	<u>1-1950</u>	<u>2-1950</u>
Applicants interviewed	1,298	1,349
Fingerprint impressions taken (in duplicate)	177	199
Procurement letters written	900	710

* Transferred from Weekly Salary Roll

** Transferred to Monthly Salary Roll

Employee and Community Relations Divisions

ABSENTEEISM STATISTICS
(Weekly Salary Roll)*

	<u>1-1950</u>	<u>2-1950</u>
Male	2.41%	2.45%
Female	3.91	3.41
Total Plant Average	2.77	2.76

INVESTIGATION STATISTICS

Cases pending at beginning of month	523	554
Cases received during the month	165	224
Cases closed	107	114
Cases pending at month end	554	664
Cases found satisfactory for employment	100	178
Cases found unsatisfactory for employment	0	4
Cases closed before investigation completed	2	5
Special investigations conducted	2	4

* Statistics furnished by Weekly Payroll Division

Employee Services:

During the month of February, Instructions Letter No. 140, entitled "Procedure for Disciplinary Action", which has been in the course of preparation during the past several months, was completed and distributed to all supervisors.

Arrangements were made to have representatives of the Federal Internal Revenue Bureau in Richland during the weeks of February 6 and 13. Space was provided for these representatives to assist our employees in preparing their 1949 Income Tax Returns. In addition, the Employee Services Counsellor scheduled visits to the various areas during this two-week period to assist those employees who, because of shift schedules, were unable to obtain assistance in Richland. During this two-week period income tax assistance was furnished to approximately 1,200 employees.

On February 6, 1950, at the request of the Public Works supervisor in the Community Division, a meeting was held with approximately 45 employees of that group for the purpose of discussing problems in connection with the G.E. Group Health Insurance Plan. At the same time, information was also furnished to this group on other Employee Benefit Plans.

As the result of several contacts by employees of the Medical Division regarding a number of grievances, which they had in connection with their work, a meeting was held with a committee of nurses, at which time the various problems presented by these nurses were discussed in detail. Subsequent to this meeting, the information obtained was furnished to hospital management, and all matters were again discussed in some detail in an

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Employee and Community Relations Divisions

effort to improve the employee relations in that facility. Hospital management advised that regular meetings are being held by Management with the employees, at which time the various problems concerning the working conditions of the nurses were discussed, and every effort was being made to solve these problems on a mutually satisfactory basis.

During the past month, a visit was made to Our Lady of Lourdes Hospital in Pasco, Washington, for the purpose of supplying this Hospital with the necessary claim forms used under the G.E. Health Insurance Plan. These forms were supplied to the Pasco Hospital due to the fact that quite a number of employees reside in Pasco and Kennewick. A supply of these forms by the Pasco Hospital will permit the Metropolitan Insurance Company to make claim payments direct to the Hospital.

The Employee Services Group was again charged with the responsibility of organizing and conducting the plant drive for the American Red Cross, which will be held during March. During February, a number of conferences were held in order to obtain a Drive Chairman from each Division. Preliminary material in connection with this Drive was also distributed.

In reply to the recommendation for hospital insurance made by a consultant group, which recently met with the Kadlec Hospital Management, the Employee Services Group conducted an analysis of the recommended plan comparing it with the present G.E. Group Health Insurance Plan, and submitted a report setting forth the advantages and disadvantages of each. As the result of this analysis the advantages appeared to be preponderantly in favor of the present G.E. Health Insurance Plan.

The following visits with absent employees were made during the month of February by representatives of the Employee Services Group:

Kadlec Hospital	67
Employees at home	15
Salary checks delivered to employees confined at Kadlec Hospital	53

The following trips to the Areas were made by the Employee Services Group:

Posting of union notices	4
Holiday notices and Red Cross posters	2

The following employees retired during February:

Carl Knutson, Community Divisions; and
Louis H. Wendorff, Community Divisions.

One employee death occurred during the month of February, namely:

Plant Security and Services Division.

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Employee and Community Relations Division

Assistance was rendered to the members of the family of the deceased with respect to all Employee Benefit Plans and Social Security information.

During February 4 employees in lack of work status requested that their separation be changed to resignation in order that their pension contributions might be refunded.

Four publications of Employee Benefit Plans information were prepared and released to the Works News during February.

Eight certificates were issued for Company appliances during the month of February.

Suggestion System

At the end of February, the volume of work in the Office of the Secretary of the Suggestion System was as follows:

	<u>1-1950</u>	<u>2-1950</u>	<u>Total since 7-15-1947</u>
Suggestions received	131	98	4,497
Investigation reports completed	72	107	4,010
Awards granted by Suggestion Committee	20	20	541
Cash Awards	\$ 405.	\$ 300.	\$ 7,365.
Estimated savings resulting from suggestions	5,030.	3,456.	

The February 24 issue of the Works News featured a front page story of a \$ 100 award made to an employee in the Maintenance Division, and in addition, gave names of other award winners for the month.

During the past month, the Suggestion Committee has indicated a tendency to increase its basis of awards from 5% of the estimated savings to 7½%. This basis will be used as a guide in making future awards.

Insurance and Compensation

Public Liability

Approval has been received from the A.E.C. for settlement of this claim in the amount of \$ 25,000.00, plus claimant's probate expenses. This information was forwarded to the Travelers Insurance Company. In view of the fact that a counter-claim has been submitted in the amount of \$ 65,000.00 by the claimant's attorneys, negotiations are still in process with that firm by the Travelers Insurance Company concerning this claim.

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Employee and Community Relations Divisions

On January 20, 1950, the claimant, an employee of the Medical Division, while proceeding along the walk-way beside Garmo's Food Store, at the time snow was being removed by Company employees from the roof of the store was struck on the head by snow and ice which fell from the top of the building. She received minor head injuries. Investigation indicated that it was possible that the injury resulted from snow being dropped over the side of the building by one of the Company employees. Accordingly, on February 7, this claim was reported to the Travelers Insurance Company for investigation.

Compensation

On March 9, 1949, the claimant, an employee of received an injury to his right knee, which he reported to First Aid on March 11. A claim was submitted to the Department of Labor and Industries, who in turn made a permanent partial disability award of "10% amputation value of the right leg at or above the knee". This award resulted in a payment of \$ 342.50. Upon recommendation of the Industrial Medical Division, an objection was made to this award on the grounds that it was excessive. Investigation also revealed that the claimant applied for Unemployment Compensation payments, which are conditional upon the claimant being available and able for work. In addition, in a signed statement made by the claimant at the time the injury was reported, he stated that his knee did not hinder his work, but might possibly give him trouble in the future.

On January 30, 1949, the claimant sustained injuries to his shoulder and head while in the employe of the , which claim was reported to the Department of Labor and Industries. On February 15, 1950, the Department awarded \$ 360 to the claimant, which is the maximum of 10% allowed for unspecified disability. Objection has been made to this award because the medical examination revealed that the award was based on subjective complaints only.

On July 19, 1949, the claimant reported that he had sustained a hernia while lifting paint on July 15, 1949. Opposition was made to allowance of this claim as it was not possible to verify the accident or establish an incident of injury other than that described by the claimant. The Medical Division felt that there was reasonable doubt that the injury was occupational. On January 5, 1950, the Department refused a claim on the grounds that there was no proof of injury sustained during the course of employment.

In the case, entitled "Olympia Brewing Company versus Department of Labor and Industries", the Supreme Court ruled that the burden of proof to show injury is on the claimant. Accordingly, in view of this decision, the Company has taken the position that they will oppose the allowance of any claim of injury which cannot be verified by investigation, particularly where a delayed report is made by the claimant.

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On January 19, 1948, the claimant, while employed by the _____ received an injury to his left arm and left foot. On September 17, 1949, the claimant was examined by a Spokane physician for a permanent partial disability rating. At that time, the physician recommended a permanent partial disability award of 30% for unspecified injuries. On November 16, 1949, the same physician revised this rating without additional examination and recommended a permanent partial disability award of 5% of the maximum allowed for amputation of the left arm at or above the elbow, and 60% of the maximum allowed for amputation of the left leg below the knee. As the result of this recommendation, the total award was \$ 1,588.15. The Company objected to this rating because of the discrepancy between the September and November ratings, and also because this man is presently employed as a millwright, and it is felt that if the claimant deserved this permanent partial disability rating, he would not be able to perform his present job. Accordingly, it was requested that this claimant be examined by two other doctors designated by the Department of Labor and Industries.

) On August 4, 1948, this claimant sustained an injury to his right hand. On August 26, 1949, the claimant was examined by a hand specialist who recommended a 20% permanent partial disability award of injury to the right hand. The claimant appealed this award alleging in his appeal that he was totally disabled from pursuing his normal occupation. At a hearing held in Seattle on February 2, 1950, the examining physician testified that there was a disability, but he was not certain that it could be attributed to the injury, nor would the physician state that the claimant was totally and permanently disabled. The claimant requested that his plea be changed in order that he might be awarded 75% permanent partial disability. From a review of the testimony, the Attorney General recommended that the claimant and the employer compromise on 50% award on permanent partial disability. This compromise was agreed to, and so stipulated in the record, providing that this agreement did not constitute an admission by the Company that the permanent partial disability was 50%.

Some time during November, 1946, the claimant reported to First Aid that he had sustained an injury to his hand during September, which later resulted in the formation of a ganglion of the wrist. The claimant was examined by four different physicians at two different times. Two physicians stated that there was a disability, but it was not job connected. The other two physicians stated that there was a disability, and that it was job connected. A hearing was held on February 8, 1950, in Yakima, Washington, at which time the testimony of one witness was taken, and a continuance granted for the purpose of presenting testimony of all the examining physicians.

Due to the impending construction program, a meeting was held between representatives of the Atkinson and Jones Safety Division and the Medical, Construction Safety, and Insurance and Compensation Divisions of the General Electric Company during the latter part of February, in order to

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establish a definite procedure for the investigation of injuries, which result in claims being report to the Department of Labor and Industries. During the previous construction program the Atkinson and Jones Safety Division had the responsibility of investigating all injuries of sub-contractor employees, where such sub-contractors were covered by the General Electric Company with respect to Workman's Compensation. About 50% of these injuries were investigated. No definite solution has been arrived at as to the procedure which should be followed, but further consideration will be given to this matter in order that complete information will be received, and proper reports made to the Department of Labor and Industries concerning such claims.

Life Insurance

Code information for use by insurance companies in issuing insurance to employees at this Works was furnished to 46 insurance companies and investigation agencies during the month of February.

	<u>1-1950</u>	<u>2-1950</u>	<u>Total since 9-1-1946</u>
Claims reported to the Department of Labor and Industries	20	32	3,243
Claims reported to Travelers Insurance Company	9	18*	416

* Of the above claims reported during February to the Travelers Insurance Company, 16 were property damage claims, and 2 were bodily injury claims.

Training and Program Development:

During the week of February 13 - 17, the 40-Hour Supervisors Training Program was again presented to 45 supervisors. As an addition to this program a Friday noon luncheon was held, which all of the members of the 40-Hour Training Program attended. In addition, 6 members of management were invited as guests. It is planned to continue these luncheons inviting different members of management each time.

During the weeks of February 13, 20, and 27, a Current Event Economics Program was made available for all exempt employees. This program consisted of a brief statement with respect to Mr. C. E. Wilson's statement, entitled "Big Progress and Big Business Go Together". In addition, the sound movie film, entitled "The Price of Freedom", obtained from the National Association of Manufacturers was also exhibited. At the close of the meeting, copies of the book written by Mr. John T. Flynn, entitled "The Road Ahead", were distributed to those attending. A total of 518 supervisors participated in this program.

In line with the desirability of impressing upon supervisors the importance of accountability for source and fissionable material, a series of conference.

Employee and Community Relations Divisions

were held with the Hanford Works Accountability Representative for the purpose of developing a training program on procedures for the handling of such material to be presented to the employees of those Divisions, which are required to have such procedures in effect. As the result of these conferences, a meeting was held during the latter part of February, with 32 Technical employees. This program consisted of stressing the importance of accountability procedures to be followed by that particular group. In addition, a wire recording by Mr. F. K. McCune summarizing the basic contractual obligations that we in General Electric assume under our contract with the Atomic Energy Commission with respect to such material, was also presented.

During February, 11 Supervisors Employee Relations Handbooks were issued personally to supervisors in various Divisions. Under date of February 16, 4 additions and 5 revisions to the Handbook were distributed. At the present time, there are 4 additions and 5 revisions awaiting printing.

During February a total of 73 new employees were given orientation. Of this number, 72% elected to participate in the Group Life Insurance Plan, and 84% elected to participate in the G.E. Group Health Insurance Plan. In addition to the above, 16 re-engaged employees were given orientation, of which 78% elected to participate in the Group Life Insurance Plan, and 79% elected to participate in the Group Health Insurance Plan.

On February 20, a set of Instructors Manuals for the Sales Analysis Institute course was received from H. S. Bigelow, New York City, for review.

On February 20, the first six chapters of Mr. L. R. Boulware's book on economics, entitled "You and What You Want", was received for review.

At the request of the Community Patrol Division a special meeting on the subject of exempt ratings was conducted with six members of the supervisory staff in that group.

On February 14, K. O. Barker made an address on the subject, "What General Electric is Doing to Consistently Improve Employee--Employer Relations", to the Richland Chamber of Commerce.

Employee and Community Relations Divisions

Union Relations and Wage Rates

Union Relations - GE Personnel

On February 6, a meeting was held between NLRB representatives, the Company and a member of the Hanford Industrial Firemen's Union for the purpose of discussing the forthcoming consent election which was scheduled for February 23 and 24. Election notices were subsequently received from the NLRB and posted in all areas.

A pre-election conference was held on February 17 between Company, Union and NLRB representatives for the purpose of reaching an agreement on the eligibility lists, instructing observers as to their duties and making any final arrangements necessary for the election.

The consent election was conducted on February 23 and 24. Official election observers appointed by the Company and the Union were instructed as to the election procedure by representatives of the NLRB. The results of the election were tallied the following day with results as follows:

Number of employees eligible to vote	109
Number of employees who voted	108
Number of votes for union representation	89
Number of votes against union representation	19

On February 7, the day before the scheduled hearing in the case of the Technical Engineers and Architects Assn., a telephone call from the NLRB in Seattle relayed the information that this group had withdrawn their petition without prejudice, and the hearing was therefore canceled.

In preparation for the possible renegotiation of the HAMTC - GE Agreement, letters were sent to division superintendents requesting any suggestions with respect to revisions or clarification of the language used in the various articles of the existing Agreement. In addition, an analysis was being made of all grievances, instruction letters and other interpretative documents which have accumulated since the Contract's origin, in order to establish firm basis for any required modification.

On February 20, an announcement was distributed to all supervisors, clarifying that portion of the Agreement pertaining to holiday call-in procedure.

Grievance Statistics:

Sixteen grievance reports were received during the month, bringing the total received this year to 40. Two hundred and seventeen grievances have been received since the grievance procedure was established. Grievances were sent in this month from the following divisions:

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Minor Construction	1
Mfg. Electrical	3
Mfg. Instrument	2
Mfg. Power	1
Mfg. "S"	3
Mfg. "P"	1
General & Office Services	1
Separations Tech.	1
Village Labor	1
Village Maintenance	<u>2</u>
Total	16

Employee grievance reports received during the month of February were regarding the following subjects:

Misc.	1
Hours of Work	2
Overtime Rate	4
Sick Leave & Days Off	1
Seniority	3
Wage Rates	<u>5</u>
Total	16

The status of all grievances received to date is as follows:

	<u>1949</u>	<u>1950</u>	<u>Total</u>
Settled satisfactorily, Step I	52	8	60
Not Settled satisfactorily, Step I	125	32	157

Of the 32 grievances received this year which were not settled at the Step I level, 15 have been satisfactorily processed at the Step II level and were settled. Only 10% of the total grievances received this year have been submitted by employees outside the bargaining unit. Thirty-eight per cent of this year's grievances were submitted by employees in only 7% of the divisions.

Meetings:

The Council Grievance Committee and the Company Negotiating Committee met twice during the month for the purpose of processing grievances at the Step II level. All supervisors were informed regarding the disposition of the grievances discussed at these meetings.

Union Relations - Subcontractor Personnel:

The following items were of primary interest during the month of February and received considerable attention by way of discussions, conferences and correspondence.

Employee and Community Relations Divisions

Plumbers Travel, April, May, June, 1948
Master Project Agreement covering all crafts, and General
Electric's participation therein
Tri-City Contractors' Association, project participation
therewith

The following matters were subject of project negotiations during the month:

Hanford Works Addendum covering Plumbers and Steamfitters employed by CPEF subcontractors. This necessitated trips to Seattle and Portland for negotiations.

Travel Time to be paid to Plumbers and Steamfitters to be employed by Lump Sum Subcontractors.

Brick Layers

Request for Reimbursement Authorizations handled during the month:

Operating Engineers - Precision Mechanics
Technical Engineers Salaries
Plumbers Travel, April, May, June, 1948
Teamsters Wages
Painters Wages
Laborers (Mortar Mixers) Wages
All crafts - meal time compensation
Electrician and Linemen High Pay

Reimbursement Authorizations received:

Linemen Double Time - No. 79
Laborer (Mortar Mixers) - Revision of effective date - No. 41
Electrician (Wiremen) - Double Time - No. 48

Wage Rates:

Outside personal contact was completed in connection with the annual Northwest Wage Survey. The accumulated data was summarized, compiled and printed, and charts drawn. The survey will be distributed to the participating concerns within a few days.

An analysis of the survey figures in connection with the comparison of the rates paid General Electric Company employees with the wage rates paid by participating concerns in the survey was started.

On February 15, 1950 a Reimbursement Authorization was submitted for the modification of the transfer rules regarding Coal Handlers to Miscellaneous Operators.

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A series of conferences were held with AEC authorities relative to a submitted request for authorization to pay a number of employees specific amounts of money due them as a result of the application of the new nonunit progression schedule. No approval has been received as yet.

Reimbursement Authorization No. 89 was received on February 24, 1950, approving the proposed monthly rates for Firemen, Lieutenants, and Captains, under the Two-Platoon System of operation which is to be put into effect in the community. The effective date was not indicated in the authorization but the community officials plan to change from the present shift rotation system of operation to the Two-Platoon System on March 20, 1950.

Due to a request of the Accounting Division in connection with the proposed "Appendix C" a review and study was made on all Reimbursement Authorizations to make certain we have complete coverage on all reimbursable items. As a result of this study the Request for Reimbursement Authorization on Coal Handlers was submitted to the AEC.

Miss Patricia Weidenmann was transferred from the Wage Rate Section to the office of Mr. B. K. Phillips. She was replaced by Mrs. Gloria Askew.

The regular routine of reviewing occupations, evaluating and classifying jobs, counseling supervision, checking transfers and reclassifications, was continued and involved action to the following extent:

Transfers Weekly to Monthly Approved	7
Nonexempt Transfers Approved	25
Job Reclassifications Approved	134
Automatic Increases Approved	195
Merit Increases Approved	8

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Employee and Community Relations Divisions

Community Relations

"Public Information" - Community

Informative newspaper releases made during the month to the "Local List" of newspapers and radio stations served, which includes the VILLAGER, TRI-CITY HERALD, Spokane CHRONICLE, Hanford Works NEWS, Walla Walla UNION-BULLETIN, Pasco NEWS, Yakima MORNING HERALD, Lind LEADER, radio stations KPKW, KWIE, and KIT, including release dates were as follows: (A large number of both local and general news releases are being sent out for immediate release. In such cases the date on which the releases were sent from this office is indicated below).

- 2/6 People in this area were warned that walking on the thawing ice in the Yakima River was a dangerous practice and that it should be discontinued.
- 2/7 The Richland Patrol Chief announced that Washington State driver's licenses were available at Richland Patrol Headquarters here each Monday from 9:00 a.m. to 5 p.m.
- 2/7 A series of coming power outages were announced.
- 2/13 A program for improving Richland streets was announced by the Public Works Superintendent.
- 2/14 The Richland Fire Chief warned residents against placing hot ashes in inflammable containers and called attention to two recent fires caused by this practice.
- 2/14 Attention was called to 3 fires in Richland that resulted from children tampering with electric heaters. Measures for the prevention of such fires were suggested.
- 2/14 Publicity was given to a letter from the President of the National Safety Council which praised Richland's Traffic Safety record. The letter was received by the Safety and Fire Protection Division.
- 2/16 The placement of a series of advertisements acquainting businessmen in the Northwest with the opportunity to set up shop here was explained in a local release.
- 2/20 A series of coming power outages was announced.
- 2/21 It was announced that the Superintendent of Community Activities Division participated in a meeting at Seattle for the purpose of establishing more camps and parks in the State of Washington.
- 2/21 G.E.'s program for correcting damage done by dust and sand and for prevention of future damage was sent to local media.
- 2/23 The establishment of 15-minute bus service between the uptown and downtown business districts was announced.

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- 2/27 The Community Engineer announced that approximately one mile of Duane Avenue would be resurfaced and widened in the near future.
- 2/28 The award of a contract for the cleaning of furnaces and flues was announced.
- 2/28 A release explaining a change in the time when Richlanders can obtain drivers licenses at Richland Patrol Headquarters was distributed.

VILLAGER Only

- 2/6 Project liability for water damage in residences was explained at the request of the VILLAGER.
- 2/13 A feature story based on the Health topic of the month, emotional disorders, was given to the VILLAGER.
- 2/14 A feature story explaining the dangers of speeding automobiles was released at the request of Community Safety Division.
- 2/15 The steps being taken to provide shuttle bus service between the uptown and downtown business district were explained.
- 2/16 A 1,000 word feature story explaining the typical work routine of a Hanford Works Security Patrolman was prepared for the VILLAGER at their request. Several photographs accompanied the story.
- 2/17 Precautions that are being taken against air raids at Richland were explained.
- 2/20 At the request of the VILLAGER a story explaining measures that are taken to control rats in Richland was released.

TRI-CITY HERALD Only

- 2/1 A question was received regarding the legality of Judge Earle Brown's Justice Court. An answer, prepared by the Law Division, was sent to the HERALD.
- 2/1 A statement of the Company's policy toward hiring members of minority groups was released to the TRI-CITY HERALD at their request.
- 2/2 A statement of the policy at Hanford Works concerning the availability of housing to members of minority groups was given to the TRI-CITY HERALD.
- 2/2 "Negotiations concerning the building now occupied by Richland Motors and the possibility of that firm constructing another building are underway at the present time, according to a G. E. spokesman. No decision concerning this matter has been reached at the present time." This statement was given to the TRI-CITY HERALD in response to a request.

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Employee and Community Relations Divisions

- 2/8 A news release was given to the TRI-CITY HERALD which answered a question about the removal of snow from Richland streets and another question explaining that "furloughs were given to some 50 men."
- 2/8 Information was given to the TRI-CITY HERALD in answer to questions about the amount of the damage caused to the Bailey bridge as a result of blasting the river ice. Other details about how the bridge will be repaired, how long it will take and the cost of the work were also released.
- 2/10 It was explained in the TRI-CITY HERALD that there is one Negro living in Richland at the present time and that others are expected to live here in the future.
- 2/14 The names of sub-contractors to Atkinson-Jones and the dates on which the contracts were awarded was given to the TRI-CITY HERALD along with the amount of the Richland budget for construction and equipment during fiscal year 1950 and 1951.
- 2/21- A statement of the present rate of construction hiring was released at the request of the HERALD.
- 2/23 A feature story explaining the difference between legal speed limits and safe speed limits was released at the request of Community Safety Division.
- 2/27 The progress of the Hanford Works construction program was described.
- 2/28 In answer to a series of questions the TRI-CITY HERALD was given the cost of Carmichael Junior High School, the number of class rooms, its rated capacity and its present number of students.

"Public Information" - General

Informative newspaper releases were sent to 72 of the leading daily newspapers, wire services and radio stations in the Pacific Northwest during the month. The release date is given for each story, and they are as follows:

- 2/3 It was announced that overall responsibility for Union Relations of General Electric Company's Nucleonics Department at Richland had been centered in the Employee and Community Relations Divisions.
- 2/4 A news story was sent to the daily list explaining that some 125 linear feet of temporary piling used in the construction of the railroad bridge south of Richland would be removed. A complete explanation of this action as well as other plans for the prevention of damage from breaking up of the ice and possible high waters was included.
- 2/7 It was announced that invitations for bids to construct water lines and fencing at Richland's sewage treatment plant would be issued on or about February 21.
- 2/21 The award of a ground lease to Spencer-Kirkpatrick Insurance Agency for the construction of a building in Richland's uptown business district was released.

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- 2/23 A release stating that final bids had been received on a ground lease for a super market site in the uptown business district was announced.
- 2/27 A new super market building will be built in Richland's uptown business district by Virgil O. McVicker.
- 2/28 It was announced that an amusement park for children will be built near the high school athletic field.
- 2/28 General Electric Company's intention to invite bids for the construction of a laundry building at Hanford Works was announced.
- 2/28 It was announced that the Manager of the Employee and Community Relations Divisions would address the Parent-Teachers Association at Rosalia, Washington. Employee and Community Relations policies at Hanford Works would be explained.

Other Activities

During February, two local news releases were re-written especially for radio and sent to KPKW, KWIE. It is expected that this practice will be followed as frequently as possible in the future.

On February 9 agreement was made to have the Nucleonics Department General Manager pose for a picture placing the 50,000th dime in a March of Dimes exhibit at Richland Supply Company. Photographs were distributed to local media.

The feature story about Security Patrolmen, written at the request of the Richland VILLAGER, was sent to the Yakima Publishing Company, the SPOKESMAN-REVIEW, and the Walla Walla UNION-BULLETIN. A photograph of patrolmen at the rifle range was sent with a copy of the story. Permission of the VILLAGER was obtained before the story was sent to the other papers because of our original agreement with the VILLAGER that this would be an exclusive story for that paper.

During February signs were placed on the project side of the Yakima River, which stated that the ice was dangerous. Some of the signs were offered to a Mr. Booker, frequent spokesman for the community of Enterprise. He accepted the signs and took charge of placing them on the opposite side of the River.

A photograph of a Hanford Works employee wearing an assault mask, coveralls, gloves and shoe covers was obtained for the A.E.C. Information Officer.

Copies of "A Guide to Richland", prepared by Communities Activities Division, which contain the names of all Richland organizations and describe their activities, were sent to representatives of local media.

The monthly report of significant public relations activities at Hanford Works, 30 for the Month, was prepared for December and January and distributed to key G.E. personnel.

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Employee and Community Relations Divisions

"Employee Information" - Special Programs

Design, layout and artwork for the covers of the forthcoming Richland telephone directory were accomplished through Special Programs. This included designing material for the outside back cover for the Safety Division, and material for the inside back cover for the Security Division. In addition, the drawing on the front cover of the current telephone book was brought up-to-date by drawing a dial on the telephone. Artwork was accomplished by the Community and Public Relations Division commercial artist.

An order for 4,000 discs which will be inserted in the center of the dials of all plant telephones was placed by Special Programs through the Purchasing Division during February. Design and artwork for the discs, which will act as security reminders, was accomplished by Special Programs through the commercial artist.

Design and production of the safety topic of the month poster for March was accomplished by Special Programs during February. In addition, Special Programs also handled the design and production of the cover for the March safety meeting discussion material. Artwork was handled through the commercial artist, and printing was accomplished through the 700 Area print shop.

Community and Public Relations Division was responsible for producing the February Employee and Community Relations Divisions safety meeting. Coordinated through Special Programs, a safety quiz game was presented at the meeting. The game included representatives of two teams (the men against the women) who advanced paper disks around a numbered "track". Each time a move was made, some point of safety was presented. Those in the audience participated through answering questions indicated on the game "track", and through throwing dice to advance the respective teams. Well received in the Employee and Community Relations Divisions meeting, several other 700 Area groups have requested use of the game for future safety meetings.

Considerable time was spent by Special Programs during February in preparing a safety supplement to commemorate 100-D Area's third major-injury-free year. It is planned to distribute the supplement to all employees in the March 17 issue of the WORKS NEWS. Preparation for the safety supplement involved taking pictures representing the various divisions in 100-D Area, writing captions for the pictures, preparing the layout, arranging for artwork, and obtaining bids for the printing of the inserts from private printing concerns through the Purchasing Division. The supplement, which will be similar in appearance to the Candid Camera inserts, will be printed by photo-offset method by Bushong & Co. of Portland.

In addition to the Safety Supplement, a safety citation card for distribution to 100-D Area employees in commemoration of the Area's third year without a lost-time injury was designed by Special Programs. When completed, the card will contain, in addition to the recipient's name, his badge photo and other identification information, and will be laminated.

Two letters from Vice President Froot were produced and distributed to all Hanford Works employees through Special Programs during February. One

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letter commended Hanford Works employees on the excellent safety record achieved during 1949, a major injury frequency rate of 0.714. Special Programs also assisted in the preparation of a letter concerning the request by the publisher of the TRI-CITY HERALD that G.E. and A.E.C. investigate the operation of the Richland VILLAGER. This letter explained that neither G.E. nor the A.E.C. had the right to investigate any Richland organization, and that the right to hold such investigations is not wanted. In each instance, the letters were sent to employees' homes with advance copies to Supervisors at plant addresses.

Special Programs also assisted in the production and distribution of a letter to all Industrial Firemen which explained that plant firemen have the same rights and privileges as all other Hanford Works employees, and which urged them to vote in the NLRB supervised election to determine whether or not industrial firemen wished to be represented in collective bargaining matters with the Company by the Hanford Atomic Metal Trades Council.

Production of 2,000 report covers for the Health Instrument Divisions was accomplished during February through Special Programs. The covers were designed through Special Programs during January. Arrangements also were made by Special Programs for the printing of a special quarterly report cover for the Health Instrument Divisions

Production and collation of the Employee and Community Relations Divisions booklets setting forth the accomplishments, objectives and organization of the Divisions was handled through Special Programs.

A member of Special Programs attended the February meeting of the Health Activity Committee in an advisory capacity. Arrangements were made for publicizing the March health topic at this meeting. To help in acquainting the families of Hanford Works employees with the February health topic, "Signs of Our Times", a news story on this topic was prepared by Special Programs and released to newspapers through the News Bureau.

Final draft of the G.E. Employees Services Fund promotion plan was produced through Special Programs during February, with the first step in the plan scheduled for the middle of March.

The following classified recruiting advertisements for stenographers were placed by Special Programs for Employment on the dates and in the newspapers shown below:

Los Angeles EXAMINER	Feb. 5, 6, 7, 8
Los Angeles TIMES	Feb. 5, 6, 7, 8
Los Angeles HERALD & EXPRESS	Feb. 6, 7
San Francisco CHRONICLE	Feb. 8, 9, 10
San Francisco EXAMINER	Feb. 8, 9, 10

The above advertisements were placed to coincide with the dates a recruiter was in the two cities. Due to short notice, it was necessary to telephone the advertisements to Mr. Wm. Kyte of the Los Angeles office for insertion in Los Angeles newspapers in order to insure publication on the dates

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Employee and Community Relations Divisions

required. Arranging for payment for classified advertisements, including obtaining the necessary vouchers and tear sheets, is handled by Special Programs.

During February, considerable time on off hours was spent by Special Programs Supervisor in preparing for the 1950 Red Cross fund campaign in his capacity as Information Director for the Benton County Chapter of the American Red Cross. Activities included laying out an overall publicity campaign, portions of which were put into effect during February, assisting in ordering solicitation supplies, ordering publicity materials, arranging for publicity assistance in other Benton County towns, establishing liaison with local radio stations for assistance in promoting the Red Cross fund campaign with local publicity and for scheduling special Red Cross recordings of "name" entertainment shows, and assisting in basic campaign strategy. One of the significant publicity accomplishments was the promotion of a fund campaign "Kick-off Party" at the Tri-City Country Club on February 28. Approximately 13 entertainment groups from this area donated their talent to the party. Radio station KWIE, through whom the party was arranged, broadcast the entertainment for nearly 1 1/2 hours.

"Employee Information" - WORKS NEWS

Four issues of the Hanford Works NEWS were published during February and "Candid Camera" was inserted in the February 3 issue.

The lead story for this issue was devoted to a review of the talk which the General Manager made to all Hanford Works Supervisors, and important highlights were mentioned. Pictorial coverage was given to the skit which accompanied the talk and the same treatment was given to the announcement of the Supervisors' Association being organized. Significant safety achievements such as the two consecutive injury-free years attained by the 700 Area and the enthusiastic interest in the Transportation Division contest were included. In line with the trend of the WORKS NEWS toward headlining good news reporter articles with a by-line, an article by one of the area reporters was given lead position on the reporter pages. Pictorial coverage was given on rescue operations performed by the Transportation Division during the flood of the Yakima River. A member of the WORKS NEWS staff was able to give an eye witness account of the rescue operations. A new column entitled "What's Doing" was introduced in the first issue of the month of February which is designed to acquaint Hanford Works people with recreational activities and items of general interest in the Community.

Special effort was made in the February 10 issue to include pictures with the Valentine spirit. A special feature devoted to a Hanford Works employee who will appear on a national radio hook-up in the "Bride and Groom" show was featured on the front page. Announcement was made of the results of the second quarter of the Maintenance Division Safety Derby with the highlights of the contest for that quarter. At the request of the Boy Scouts organization, recognition was given to their 40th anniversary.

In the February 17 issue, particular emphasis was given to the announcement that the Red Cross Drive would be launched on March 6. A lead story showing the national recognition Hanford Works has gained for their fine

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safety program was included in this issue and was based on a congratulatory letter to the Safety Division from the National Safety Council. In an attempt to give adequate publicity on the membership drive for the Supervisors' Association, a story was included announcing that a membership drive was underway. Considerable stress on the safety campaign, urging H.W. people to help in the elimination of safety hazards was promoted through an editorial cartoon. A two-column lead story was devoted to Coffin Awards which were given to employees of the Company for meritorious work. As a means of informing Hanford Works people of the opportunities available in the various crafts classes of the Adult Education School at Columbia High School, a two-column lead announcement was made.

The fine safety record of 365 days without injury made by the Transportation Division gained prominent recognition on the front page. Continued cooperation with the Red Cross on publicity for their fund campaign was given and additional editorial space was devoted for the same purpose. Continued interest by readers of the WORKS NEWS in the new column "Can You Tell Me" introduced a short time ago was evidenced by the number of questions and answers appearing in this issue. In an effort to have new employees feel more at home at Hanford Works, considerable space was devoted to recognition of new arrivals.

During the month additional time was required for training a new employee to take over the position as Assistant to the Editor, and correspondence was initiated to inform all WORKS NEWS reporters of the change. Computation of the WORKS NEWS survey required a great deal of extra time of all Supervisors within the Division. It is expected that final results will be made known in the near future.

"Employee Information" - Women's Features

Two women's pages appeared in the four issues of the Hanford Works NEWS during the month of February, 1950. "Where There's a Window There's a Way" featured interior decorator hints on window dressing. A leaflet giving directions for making draperies was offered to readers and 30 copies were sent out at the request of readers.

A story on safe handling of cleaning fluid in the home also appeared on this page. It was written from information supplied by the Community Fire Division.

"Tune Up and Put a Note of Spring in Your Step" was the feature in the February 17 issue of the WORKS NEWS. The article was the first in a series based on the theme of greeting the new season.

Exercises were shown and described as suggested by the Columbia High School adult education conditioning class instructor.

The folk dance club, square dancing, basketball, softball and Community Activities Divisions Sports Nights were named for active recreation.

Approximately 130 knitting patterns were distributed at the request of readers as a result of a feature on hand knit garments in the January 27 issue of the WORKS NEWS.

Employee and Community Relations Divisions

A new feature called "What's Doing" was initiated in the February 3 issue of the WORKS NEWS. The idea is to provide a chatty schedule of events about one week in advance as a service to readers of the WORKS NEWS seeking recreation in Richland. During the month activities promoted were the Square Dance Club, Richland Symphony Orchestra Concert, Allied Arts Association, Community Activities Division Sports Nights, S.P.E.B.Q.S.A., Women's Basketball, Eagles benefit dinner, Choral Society, Ray Whitley (for JayCeas), "H.M.S. Pinafore", "No Time for Comedy", and Beta Sigma Phi Polio Benefit card party and style show.

A short feature on a Hanford Works employee who will be married on the "Bride and Groom" radio show was written for the WORKS NEWS. Pictures were obtained for this feature.

Each month requests for rides and riders for week end and vacation trips are handled through the facilities of the Women's Activities office. During February, 127 calls were received requesting rides or riders for the following destinations: Kansas City, Spokane, Los Angeles, Casper, Wyoming, Laramie, Whoming, Lansing, Michigan, Aboline, Texas, Wilkes Barris, Pa., Seattle, Portland, Yakima, Walla Walla, Hood River, Birmingham, West Virginia, Virginia, and Tennessee.

Community Divisions Public Information

At the beginning of the month, the Supervisor, Community Divisions Public Information, met with the Supervisor, Housing Allocation Section, Housing Division, to discuss ways and means by which the latter group might improve relations with people who apply for housing accommodations.

Following the meeting, the Supervisor, Community Divisions Public Information, outlined various recommendations, in written form, which are now being studied by the Division Head, Community and Public Relations. Once he approves them, they will be forwarded to the Housing Allocation Section for consideration and action.

The Supervisor, Community Divisions Public Information, attended the February meeting of the Richland City Council, in order to keep abreast of its activities and proposals. The results of this meeting were verbally reported to the Division Head, Community and Public Relations, for his information.

To present a proposed publicity campaign for a March "Kite Flying Contest", the Supervisor, Community Divisions Public Information, met with members of the Community Activities Division, in the evening of February 27.

The publicity program designed and suggested by the Community Divisions Public Information Supervisor is as follows:

Written publicity

1. News stories in local papers.
2. News pictures in local papers and WORKS NEWS (picture of G-E employee helping his son construct a kite)
3. Newspaper advertisements, sponsored by organizations furnishing awards, or community organizations, such as Kiwanis or Rotary

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Employee and Community Relations Divisions

4. "Slug line" in firms' regular newspaper advertisements
5. Posters for school and community bulletin boards
6. Mimeographed "take-home" notices for distribution in school recreation classes
7. "Hand-outs" for distribution from children's departments of department stores

Spoken Publicity

1. Radio spot announcements, contributed by local radio stations
2. Announcements in school recreation classes

This Program was approved by members of the Community Activities Division, and is going ahead, through the cooperation of the Community Activities Division and the Community Divisions Public Information Supervisor.

An up-to-date description of Richland, Washington, was written during February by the Supervisor, Community Divisions Public Information, for mailing to people who apply for work in the Nucleonics Department. This description is now being checked by the Division Head, Community and Public Relations, and after his approval, will be presented to the Employee Relations Division for its use.

During February, the Supervisor, Community Divisions Public Information, met with the superintendents of the Community Activities Division and the Community Safety Division, for the purpose of further acquainting these groups with the functions of Community Divisions Public Information and the services offered by the Community and Public Relations Division.

A threat to poison 1,000 dogs in Richland was reported in the local newspaper last month. Immediately after this threat was made know, the Supervisor, Community Divisions Public Information contacted the Chief of the Community Patrol Division and recommended the following procedure be used in answering residents' questions as to what Patrol would do regarding the threat:

1. Assure residents Patrol will do all it can to prevent a "dog poisoning campaign".
2. Urge dog owners to keep their dogs close to home, as a precautionary measure.
3. Promise residents that the Patrol Division will act in accordance with the law in dealing with dog poisoners.

By being prepared to answer the question, "What is Patrol going to do about this 'dog poisoning campaign'", the Patrol Division Chief believes much ill will was avoided on the part of residents toward his division.

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Employee and Community Relations Divisions

The Supervisor, Community Divisions Public Information met with the Superintendent, Community Accounting Division last month to outline a procedure to be followed in attempting to collect residents' over-due phone bills. "Direct mail" was chosen as the means, and the Supervisor, Community Divisions Public Information will draw up the form letters.

As a means of maintaining close liaison between the Community Divisions and the Community and Public Relations Division, the Supervisor, Community Divisions Public Information attended all of the Community Divisions staff meetings held in February. At each meeting, this Supervisor reviewed the actions he had taken toward winning the good will of residents for the Community Divisions, and noted, for future action, the community relations problems presented during the meeting.

Public Functions and Services

Reviewed Status Report text with the General Manager and his secretary, using the wire recorded transcription along with script and this was revised, mimeographed and distributed to several members of Supervision in Employee and Community Relations Division. A copy of this text was submitted to Training and Program Development where it served as an important part of their development of the Accountability of Source and Fissionable Materials program.

Public Functions continued to render assistance in direction and staging of special Security Division color slide film project. This series depicts "Miss X", representing a typical Hanford Works secretary whose job entails the handling of classified documents in a normal day of activities at home and throughout a regular working day. Considerable creativeness in direction has been employed to achieve unusual stage effects to create an interesting film. Processing of the film will be done at Portland and upon completion will be shown to all interested groups as a security feature.

A special film showing was arranged by Public Functions for members of Community and Public Relations Division and Training and Program Development which was a demonstration of a new sonic tone slide film projector that eliminates the manual operation of a projector and incorporates sound projection suitable for use in group meetings.

Submitted report of Objectives for 1950 of Public Functions to be combined with master portfolio.

Considerable increase in institutional motion picture request activity was noted this month in Public Functions. Notifications and folders were sent to several new clients who are availing themselves of the services we offer. This is especially true of the Boys and Girls Counsellors at the Carmichael Junior High and Columbia High Schools. In addition, the Chairman of the Supervisors' Association Steering Committee is using our institutional films to augment meetings held with potential members. Several excellent new films have been added to the General Electric Film Library in Portland and those concerned are being notified of these issues. Sixteen films were obtained from the Advertising and Publicity Office in Portland, Oregon for showing to employee and community groups.

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Employee and Community Relations Divisions

Supervisory members of Public Functions attended the Employee and Community Relations Divisions' supervisory conclave held at the Desert Inn early in the month. Considerable helpful knowledge was gained in learning the objectives of our associated groups and their projected activities whereby reciprocal relations may be conducted and our services correlated.

The Supervisor of Public Functions attended the 700 Area Safety Council Meeting with the Division Head and offered the services of our groups to assist in the projection of an award ceremony to be presented to all 700 Area personnel. A suggestion was offered that a colored slide--tableaus portraying executive management and representative employees in their respective work areas to be produced at small expense. This would create joint spectator interest on the part of all personnel who were responsible for the achievement.

Four applicants for a Public Functions Assistant were interviewed and the qualifications of each carefully considered in respect to the requirements of the job.

Discussed the possibilities of employing Public Functions created programs of a Community Relations nature with management members of local radio stations (KWIE;KALE;KPKW) and they are very receptive to any service we can offer them for sustaining program. Development is in the initial planning stage for presentations suggested.

"Earning and Learning in Richland, Washington's Atomic Energy Center", is the subject of a text prepared by Public Functions for use by the Division Manager who spoke before a group of Parent-Teachers Association members at Rosalia, Washington, Tuesday evening, February 28. The contents of the text included the objectives of the G.E. 9-Point Better Job Program, Benefit Plans available to General Electric Company personnel including educational benefits, Employee Relations and Supervisory Training programs being made available.

The Supervisor of Public Functions and Services attended two demonstrations of recording and public address system equipment made available by distributors from Spokane and Seattle. These were held in conjunction with a careful survey being made of this type equipment for use in Community Relations programs being developed for presentations to Supervisory-Management groups, Employee groups and residents of the Community. The equipment was sent-up at two recent community auditorium functions.

Assistance was rendered by Public Functions in the preparation of the February Safety Meeting Program presented by the Community and Public Relations Division. Material and recommendations were submitted in the construction of the participation game employed in the presentation.

The Chief Supervisor of Security notified the Public Functions Supervisor of the latter's appointment as a contest judge in a forthcoming slogan contest being offered Hanford Works personnel by the Security Division. Announcement of the contest will appear in the March 3 edition of Hanford Works NEWS.

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Employee and Community Relations Divisions

Hanford Works Photo House

The space facilities of the Photo House were enlarged to provide a copy-layout work and print drying room. An increase in the scope of work and assignments necessitated this acquisition, especially the orders being received from Medical Division for specialized color photos of Medical specimens.

As noted on the chart, sixty-nine photo assignments were completed by the Photo House during February, an increase of 29 over the previous month or about four assignments per day. Indications from clients are that these assignments will continue to increase in the ensuing months as well as the regular photo-badge work. Color photography has increased over 50 per cent from the previous month.

Motion picture assignments increased this month with the Technical Divisions projecting for special laboratory and process photography by the Photo House. Two assignments were formulated for motion picture filming in color this Spring and Summer for Community Activities Division and Safety and Security Divisions.

Special progress photos were made by the Photo House of all stages of the ice jam in the Yakima River for Transportation Division. Pictures were also made of blasting operations and a special letter of appreciation was received for these two assignments.

A letter directed to the Division Head from the Transportation Division acknowledging appreciation for the preparation of special safety certificates by all members of the Photo House was received and distributed.

A new photographic request form was prepared by the Photo House and was approved for use in establishing a photo control system throughout all processing stages of each request. This form will serve as the original assignment and identify each order until the finished work is delivered and then becomes a permanent record for compilation and reordering purposes.

Commercial Art

During February, the Commercial art services rendered included the regular quota of photograph layouts, editorial and security cartoons for the Hanford Works NEWS. In addition, designing and finished art work was completed on a new Women's Page heading, two syndicated cartoons, a column heading for the Women's Basketball articles, March safety poster, new Richland telephone directory, (front, inside back and outside back covers), Safety booklet cover and Security Division posters. Also, sketches were prepared for the Supervisors' Association Membership Cards and Safety Celebration billfold cards.

Identification cards were prepared for Training and Program Development for use by the members of the Supervisors' 40-Hour Training Program. Also, a masthead was designed and completed for a Supervisors Bulletin being issued weekly by this group.

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3 Hanford Works Photo House Production during February, 1950

DIVISIONS	TYPE OF PRINTS									
	8"x10"	5"x7"	2"x4"	2"x2"	Nega- tives	Color Slides	Prefab. "A" Badge	PH-28	Lami- nated	Motion Pictures
MEDICAL		59			51	48				
HEALTH INSTRUMENT	8				8					100 feet
TRANSPORTATION	114				94					900 feet
TECHNICAL	11				4					
COMMUNITY ENGINEERING	28				21					
DESIGN & CONTR.	92				24					
PROJECT ENGRING.	48				24					
EMPLOYEE AND COMMUNITY RELATIONS			452	2102	150		452	34	25	
EMPLOYMENT										
COMM. & PUBLIC REL. SPECIAL PROGRAMS	57				80					
NEWS BUREAU	74				56					
WORKS NEWS	111				131					
PUBLIC FUNCTIONS	36				21					
TOTALS	579	59	452	2102	664	48	452	34	25	1000 feet

PHOTO APPOINTMENTS - 69
 PRINTS * - - - - 3192
 NEGATIVES - - - - 664

AN INCREASE OF 172 NEGATIVES

COMMUNITY DIVISIONS

SUMMARY-FEBRUARY, 1950

ORGANIZATION AND PERSONNEL

Number of employees on roll:	<u>Beg. of Month</u>	<u>End of Month</u>
Community Administration	6	6
Community Accounting	26	26
Community Public Works	416	416
Community Safety	3	3
Community Commercial Facilities	16	15
Community Housing	40	40
Community Fire	128	128
Community Patrol	83	84
Community Activities	<u>12</u>	<u>12</u>
	730	730

Changes in the force of the Community Divisions during the month of February, 1950, were as follows:

	<u>Reduced</u>	<u>Increased</u>
Community Administration	-	-
Community Accounting	-	-
Community Public Works	-	-
Community Safety	-	-
Community Commercial Facilities	1	-
Community Housing	-	-
Community Fire	-	-
Community Patrol	-	1
Community Activities	<u>-</u>	<u>1</u>

The total, therefore, remains unchanged as of the end of February, 1950.

GENERAL

Election of Community Council members was held February 4, 1950, in conjunction with the School Board election.

Three new commercial facilities opened for business during the month.

Housing applications increased from one hundred ninety-seven (197) to two hundred three (203).

Due to the extreme ice conditions on the Yakima River, unfavorable thawing weather could have created a serious threat to the bridges crossing the river; however, as a result of favorable thawing conditions, no damage to the bridges was experienced.

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COMMUNITY DIVISIONS
PUBLIC WORKS DIVISIONS
FEBRUARY, 1950

ORGANIZATION AND PERSONNEL

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
Number of employees on payroll:			
January 31, 1950	58	358	416
February 28, 1950	58	358	416

Personnel changes made during month:

Transfers to Transportation	1		
Transfers to Services Division	1		
Transfers from Security & Services	2		
Transfers from Maintenance	1		
Transfers from Transportation	1		
(Transfers within Public Works One Steno from VM to VL)	1		
Returned from Leave of Absence	1		
Terminations	1		
Retirements	2		

GENERAL

Our new garbage, trash and refuse disposal grounds was opened on January 12, 1950. This site is located at a point near the Columbia River, south of the old Labor Yard. Some of the factors considered in the selection of this site for the sanitary fill were:

1. Easy accessibility for residents and reduction of mileage to be traveled by our garbage collection crew.
2. Greatest portion of excavation was performed by contractor building the dike who had borrowed top soil from this area.
3. Access roads were already built by the dike contractor.
4. Site was agreeable to the A.E.C. Public Health and was also recommended by the consultant firm of Greeley and Hansen who were engaged last year to study this matter.

During the past month the area surrounding the sanitary fill has been cleared of considerable debris, and the appearance of this area greatly improved.

Areas seeded to rye during the fall of 1949 are in good condition. Some loss was experienced by wind erosion however, there are sufficient plants to establish a stand this spring. Seeding operations will be resumed in the immediate future and will include outside edges of the By-Pass shelterbelt with some additional seeding in the vicinity of the hill at Elm Street and Swift Boulevard extended. Additional areas that are potential blow areas, on which construction work during the winter months destroyed the cover, will be reseeded.

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Community Public Works Divisions

GENERAL (CONTD)

A committee was set up to watch for ice jams and to be prepared to evacuate threatened personnel, to barricade roads and report information into headquarters. Work was closely coordinated with Patrol, Air Patrol and weather stations.

Considerable damage was done to the Bailey Bridge from blasting ice. One road section was shot away and one section of sidewalk lost.

The ice left the river February 20, 1950, in a rotten broken up mass. There was jamming at the bridge, but nothing serious.

Carpentry work necessary to prepare 83 railroad car loads of lumber for shipment was performed for the Excess Division of Purchasing and Stores Divisions.

Removal of blow sands resulting from soil erosion and high winds from house lawns in Village started in February. This work is 50% complete.

PROJECTS

C-203-III - Water Supply & Sewage Facilities for Richland Village and North Richland Construction Camp - Invitations to bid on fencing and water lines in this area were opened 2-28-50.

Backfill along George Washington is being done by the Labor Section of the Public Works Divisions. A meeting was held with the Army Engineers in regard to the interference that is possible between the dike and the fencing and water line contractors.

C-282-R - Richland Community Dust and Pollen Control Program - No street trees were planted during the month due to the lingering frost, making it necessary to hold trees in the nursery. However, stakes were placed for street trees on North George Washington Way, Howell Avenue and Davison Avenue. A large percentage of these holes have been excavated by the tenants. Planting is scheduled to begin within the next few days.

A brief survey was made of the areas seeded to grass last year. Although these areas appear to have a poor stand of grass on them, with normal care they will not need reseeding.

No additional work was done on the shelterbelt planting during the month of February, with the exception of preliminary work necessary for the resumption of planting to be started as early as possible during the month of March.

C-288-C - North Commercial Area - A final inspection of utilities - water lines, sewer lines, storm sewer drain, inlets and sanitary sewer manholes - was made February 13, 1950. A number of exceptions were made on this inspection which have been cleared at this time by the contractor.

On February 20, 1950, a final inspection was made on paving, concrete curb and gutters, sidewalks throughout the area. A large number of exceptions were made during this inspection and are presently being cleared by the contractor.

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Community Public Works Divisions

PROJECTS (CONTD)

C-232-II - Construction of Robert Gray Jr. High School - Field release (1) was issued 2-21-50. Specifications covering contract work incidental to execution of this project were prepared in preliminary form. Necessary estimate plans, requisitions, and other work incidental to this contract progressed satisfactorily.

C-233-R - Part II - Construction of Spalding Elementary School - Field release (1) was issued 2-7-50. Specifications covering contract work incidental to execution of this project were prepared in preliminary form. Necessary estimate plans, requisitions, and other work incidental to this contract progressed satisfactorily.

C-234 - Marcus Whitman School - The Marcus Whitman School was accepted with one exception.

C-345-R - Attic Duct Insulation - Precuts - Request to close project was issued 2-27-50.

C-348 - Asbestos Siding, 703 Building - Subcontract was let to Roof Service, Inc. of Seattle, Washington. Notice to proceed not yet issued.

C-351-R - Installation of Irrigation System - Public Grounds - Specifications covering contract work incidental to execution of this project were prepared in their preliminary form. Necessary estimate plans, requisitions, and other work incidental to this contract progressed satisfactorily.

"S" PROJECTS

S-147 - Addition to Fire Station #1 - Cost report was issued 2-8-50. Final inspection report was issued 2-15-50 and request to close project was issued 2-21-50.

S-149 - Addition to Fire Station #2 - Cost reports were issued 2-8 and 2-27-50.

S-216 - Rehabilitation of Irrigation Ditch West of Columbia High School - Revised specifications were issued 2-28-50.

S-229 - Furnace Cleaning, Conventional Houses - Field release (1) was issued 2-28-50. Work to begin on March 13, 1950.

S-290 - Traffic Control Signals - Rough draft for specifications was prepared 2-24-50. Design drawings in preparation.

ENGINEERING DIVISION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
Number of employees on payroll:			
January 31, 1950	17	12	29
February 28, 1950	17	12	29

Community Public Works Divisions

Miscellaneous

The following routine items were processed during the month:

Requisitions	49
Store Stock Requests	4
Store Stock Adjustment Requests	2
Purchase Orders Expedited	18

Several samples of materials newly on the market, were obtained for inspection and testing by the Engineering Group.

Specifications were rewritten of several Store Stock items to include new materials now available.

The following number of jobs were completed on continuous engineering service requests:

ESR #97-CH - Elec. & Struct. Insp.	5
ESR #96-CH - Alteration Inspection	2
ESR #100-CH - Back Charge Estimates	3
ESR #118-CF - Approved Alter. Permits	5
ESR #340-CH - Fire Damage Estimate to Houses	4

The following Engineering Service Requests were completed or cancelled:

<u>Job No.</u>	<u>Description</u>	<u>Date Completed</u>
243-PW	Irrigation Ditch fencing south of Carmichael Jr. High School	2-13-50
306-PW	Oil Heating - Prefabs	2-21-50
311-SS	Remodeling of 722-A Building	2-27-50

Technical information and instructions were furnished the following prospective facility operators, clubs, churches and schools.

Proposed Roller Skating Rink
Proposed Recreational Area (Commercial)

The status of Commercial Facility Division Sponsored Construction is as follows:

Theater - Construction started 12-14-49 - 5% complete

National Bank of Commerce - Construction started 1-31-49 - 90% complete

Deymonaz - Construction started 9-16-49 - 95% complete

Diettrich Food Store - Construction started 11-3-49 - 95% complete

Community Public Works Divisions

Commercial Facilities Construction Status (Contd)

Barnhart's Bakery - Approved 8-29-49 - Awaiting information

Kaiser and Johnson Food & Drug - Construction started 10-17-49 - 95% complete

Cascade Radio Station - Awaiting information

Multiple Business Building - Construction started 11-2-49 - 95% complete

Morgan & Olberg Drugstore - Approved 1-18-49 - Awaiting detailed plans

Ellis Photographic Studio - Approved 10-13-49 - Awaiting detailed plans

Stone & Garmo Food Store - Awaiting preliminary plans

Desert Inn Remodeling, Entrance - Revised plans submitted

The status of Community Activities Division Sponsored Construction is as follows:

Latter Day Saints Church - Construction started 2-5-49 - 75% complete

South Side United Protestant Church - Construction started 11-5-48 - 99% complete

Richland Baptist Church - Construction started 11-27-48 - 99% complete

Assembly of God Church - Approved 5-16-49 - Awaiting start of construction

Church of Nazarene - Construction started 4-12-49 - 99% complete

Church of Christ - Construction started 12-19-49 - 50% complete

Swimming Pool Association - Awaiting information

Reorganized Latter Day Saints Church - Construction started 8-22-49 - 15% complete

Christian Science Society - Awaiting preliminary plans

The status of School Construction is as follows:

Chief Joseph School - Reviewed 8-8-49 - School board has advertised for bids. Bids to be opened at an early date.

New Elementary School - Awaiting information

Sacajawea Grade School Cafeteria Addition - Construction started 9-16-49 - 100% complete. (Awaiting AEC notification for final inspection).

Conversion of Village Food to School Administration Offices - Construction started 11-15-49 - 75% complete

School Agricultural Building - Approved 2-15-50 - Awaiting start of construction

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Community Public Works Divisions

Alteration Permit Progress is as follows:

<u>Facility</u>	<u>Description</u>	<u>Approved</u>	<u>Remarks</u>
Robley Johnson Studio	Extend front porch	3-23-49	100% complete
The Mart	General Alterations	10-3-49	90% complete
Robley Johnson Studio	Alteration to dark room	9-20-49	Work stopped
New City Cleaners	Install gas pump and storage tank	11-23-49	95% complete
Desert Inn	Install Neon Sign	12-19-49	Awaiting installation
Diettrich's Food Store	Install Neon Sign	1-9-50	Awaiting installation
Natl. Bank of Commerce	Install Neon Sign	2-8-50	Awaiting installation

The following work was done on streets and storm sewers:

The streets suffered considerable damage from the frost and will require above normal maintenance.

Transportation is crushing rock for the Village to be used for hot asphalt patching.

The footings were poured in the Community Labor Yard for the asphalt tank. Delivery of tank is being awaited.

A complete review was made of our street and sidewalk program for this coming spring, and was submitted to Operations and Maintenance Division.

Grounds Maintenance and Irrigation

Assistance was given the Labor Section on scheduling of equipment for the coming irrigation season. A preliminary study of this problem indicates that equipment will have to be properly placed in order for it to meet the irrigation requirements of this season.

Community Public Works Divisions

OPERATION AND MAINTENANCE DIVISION

MAINTENANCE SECTION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
Number of employees on payroll:			
January 31, 1950	19	188	207
February 28 1950	19	189	208

Personnel changes made during the month:

Transfers from Maintenance		1	
Transfers from Plant Security & Services		1	
Transfers to Village Labor		1	
Temporary-on Loan from Maintenance		4	

Miscellaneous

Renovation orders were completed in 41 vacant houses during February, a breakdown of this figure showing 9 prefabs and 32 conventional type houses. The work completed on these orders included 28 complete paint jobs 12 partial paint jobs, and cleaning and miscellaneous repairs as needed to bring these houses up to our accepted standards. There are 35 incomplete renovation orders on hand at close of month.

The Interior Paint Program (and necessary preparatory carpentry work) was continued in Division V and resulted in the completion of 53 conventional houses. The interior paint program of prefab houses was started the latter part of the month and 13 of these houses have been completed.

Six rooms and the corridor in East wing of Kadlec Hospital were also painted during February, in addition to several partitions in Building 760.

Repairs to a fire damaged house at 645 Cottonwood are 95% complete, necessary work amounting to a major job, including new roof, partitions, wiring, furnace and duct repair, cabinet replacement and complete interior and partial exterior painting.

The remodeling of Tract House J-708 has been in process and is approximately 85% complete. This work includes a new bathroom, installation of a water heater, new plumbing septic tank and drain field, complete rewiring and service entrance and painting.

Approximately 31 man days were required to perform work at Columbia Camp in connection with the closing out of this facility. This work included the disconnecting of all heating, ventilating, cooling, cooking equipment, so that this could be removed from the area, and the cutting of water service to all buildings.

Floors were leveled (through jacking up or re-enforcing) in 53 A&J Houses, 51 precuts and 41 prefabs.

Community Public Works Divisions

Miscellaneous (Contd)

Faulty concrete bath tubs were replaced with metal bath tubs in 35 locations. "Tyle-Bord" was installed around 35 tubs and in addition was installed at 55 other locations amounting to a total of 90 "Tyle Bord" completions during the month

New shower stalls were fabricated and installed in 12 prefab houses to replace deteriorated stalls.

The overhaul of steam system was completed in Dormitories W-17, 20, 21 and M-1. Ten radiators which had broken sections as result of freezing during cold weather were repaired at same time.

Work is now in process to relocate water still from North Richland Hospital to Kadlec Hospital. When installation is complete, block tin lines will be run to make triple-distilled water available at several locations in the hospital.

Overhaul of #5 and #13 domestic wells has been completed, and overhaul is in process on #4 domestic well and irrigation system pumps.

During the month it was necessary to break holes in floors of several Ranch houses to repair water line leaks at the point where these lines rise up through the concrete floor. A sleeve was not provided in the floor for passage of the copper tubing, and these breaks are apparently due to fatigue set up by expansion and contraction of lines without expansion loops. When repair is made, allowance is made for this expansion.

A listing of miscellaneous work completed during February includes the replacement of 9 electric water heaters, 4 kitchen sinks and 6 wash basins; repair or replacement of linoleum on 78 floors and 64 sink boards; repair of 27 screen doors and 30 roofs; repair and refinishing of 31 chairs, 4 dressers, 17 tables and 4 desks; upholstering and covering of 48 chairs; sanding and finishing of floors in 12 conventional houses; and the lining with celotex of 8 utility closets in prefabs.

Service Order Group

Oil burner mechanic service was discontinued on swing shift and week ends as of the last day of February since weather conditions indicate that this service will no longer be required.

The Service Order Group completed a total of 4124 Service Orders during the month, 96.3% of this work being done for Housing, 2.3% for General, 1.1% for Concussions, and .3% Public Works.

The following is a status report of Service Orders:

On hand at beginning of month	513 orders
Received during month	3992 orders
Completed during month	4124 orders
On hand at end of month	381 orders

Community Public Works Divisions

UTILITIES SECTION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
Number of employees on payroll:			
January 31, 1950	9	56	65
February 28, 1950	9	56	65

Steam

Some difficulty was encountered during the first part of the month with the coal conveyor and crusher at the Central Steam Plant. The coal crusher was removed, completely overhauled and re-installed. It was found that the main crusher shaft was too small at the bearing surface. A new shaft received from the manufacturer was exactly the same as the old shaft. It was necessary to turn old shaft down and sleeve it to correct size. It was necessary to replace the drive sprocket wheel on #3 coal conveyor after the sprocket wheel hub was cracked due to a faulty sheer pin socket.

On February 8, 1950, it was necessary to take #4 boiler out of service to replace a leaking boiler tube. It was found that the leaking tube had been cut by abrasion from the first header wall soot blower. This soot blower was re-adjusted to prevent any further damage to tubes. On February 13, #4 boiler was returned to service, and #2 boiler was taken out of service for minor maintenance repairs to furnace and to clean chemical feed line.

A considerable amount of overtime was worked during the month to take advantage of shipments from the mines in view of the overall coal situation at present.

Operations at the 1131 Boiler House were normal throughout the month.

Central Steam Plant

Steam Generated	32,803
Steam Sent Out	28,120
Coal Consumed	5,047

Domestic Water

Satisfactory progress is being made on routine overhauling of the domestic water well pumps and Consumers' booster pumps.

The north reservoir at 1182 was drained and cleaned during the month. Some repairs have been made to water line leaks that developed during the extremely cold weather.

Community Public Works Divisions

Domestic Water System

	<u>Well Production Million Gallons</u>	<u>Avg. Daily Production</u>	<u>Total Consumption Million Gallons</u>	<u>Avg. Daily Consumption</u>
Richland	98.7566	3.5270	82.0080	2.9289
North Richland			22.8552	0.8163
Columbia Field	35.8606	1.2807		
300 Area			28.5621	1.0201
	<u>134.6172</u>	<u>4.8077</u>	<u>133.4253</u>	<u>4.7653</u>

Sewage

Several minor difficulties were encountered during the first part of the month due to the extremely cold weather causing some equipment freeze ups.

Some progress has been made on the items of Project C-203-Part III being done by our maintenance groups.

The sewage flow integrator was removed from the venturi flow recorder and re-installed on the parshall flume flow recorder. This change was thought desirable after considerable study of the installations which indicated that accuracy of the meter would be greatly improved by making this change.

Sewerage

	<u>Total Sewage Flow Million Gallons</u>	<u>Average Daily Flow Million G.P.D.</u>	<u>Average Rate Flow Gals. Per Min.</u>
Plant 1	30.000	1.0714	744
Plant 2	43.100	1.5393	1069
Total	73.100	2.6107	1813

Pasco Warehouse Area

Some difficulty was encountered with water getting into fuel oil storage tanks when the sudden melting of snow caused excessive water run-off.

An inspection of the pilings and timbers supporting the river pumping station and the connecting ramp was made. This inspection revealed that most of the timbers have deteriorated considerably. Although it is thought the building is sufficiently supported at present, it may not be sufficiently anchored in case of excessive high river run off this coming season

Community Public Works Divisions

LABOR SECTION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
Number of employees on payroll:			
January 31, 1950	9	100	109
February 28, 1950	9	99	108

Personnel changes made during the month:

Transfers to Plant Security & Services		1	
Transfers to Transportation		1	
Transfers from Plant Security & Services		1	
Transfers from Community Maintenance		1	
Transfers from Transportation		1	
Returned from Leave of Absence		1	
Terminations		2	
Removal from Rolls		1	

Miscellaneous

The garbage and refuse collection continued as usual, with the residential trash collection Wednesday of each week. Three men used each Saturday on garbage and trash removal from commercial facilities and stores. Six new facilities added to the commercial routes during the month of February.

Due to weather conditions, work was limited on Project C-282.

The delivery of topsoil on Tenant Relation Work Orders was started this month.

The repair of Project irrigation equipment was continued.

Twelve shipments of personal furniture were handled. Three men were required for handling Government furniture and fixtures during the month. The above group was used during slack periods on Grounds Maintenance.

Excavation work has been curtailed due to frost conditions, but this type of work is now in progress. Several minor excavations have been completed this month.

The saddles for the road oil tank have been poured and backfill is complete.

Excavation work on the sewer and water service to the Church of Christ at Thayer and Swift started the twenty-eight of February.

Removal of silt and shaping of banks along the irrigation canal is again in progress after four weeks of shut down due to frost conditions. We hope to have the canal system ready for water by the first of April. The canal carrying water to the 3000 Area Well field should be ready by the 15th of March.

Community Public Works Divisions

Miscellaneous (Contd)

Road and street maintenance is now on the increase due to holes in streets and soft roads caused by frost. The filling of holes with 3/4 minus gravel is a daily routine. We will start using Pre-mix when the temperature permits.

Covering of the sand blow area along the 3000 Area canal is 80% complete.

The cleaning of streets over the entire Village will be underway next week. This work has been somewhat slowed down due to the need of manpower and equipment on other work.

Materials moved this month:

Sand on icy streets and walks	220 cu. yds.
3/4 Minus Gravel - Roads & Streets	525 cu. yds.
Pit run ballast, blow areas (3000 canal)	2496 cu. yds.
3/4 to 1/2 clean chips to yard	1185 cu. yds.
1/2 to 0 clean chips to yard	834 cu. yds.

Coal delivered from Hanford storage:

1131 Garage	2-1/4 ton
Renovation of houses	1-1/4 ton

COMMUNITY COMMERCIAL FACILITIES DIVISION

February, 1950

ORGANIZATION AND PERSONNEL

FEBRUARY

Number of employees on payroll

Beginning of month	16
End of month	15
Net decrease	1

COMMERCIAL FACILITIES:

The following figures indicate trends in commercial activities as related to various basic items:

	<u>January</u>	<u>February</u>
Percent of room day occupancy - Desert Inn	52%	66%
Gallons of ice cream sold	2,168	2,777
Carnation milk & cream deliveries	51,731	59,157
Darigold milk & cream deliveries	2,934	2,701
Morning Sun Dairy milk & cream deliveries	13,205	15,985
Theater customer count	46,330	52,142
Gallons of gasoline sold	193,585	151,418

Total number of Commercial Facility Operators' employees, full- and part-time as of February 28: 1,021 (This shows a net increase of 10 over last month's 1,011.)

Thrifty Drugstore opened new department to repair electric razors, fountain pens, and make keys.

Construction was started February 27 on Kennell-Ellis Studios building in Uptown Business District.

The following routine items were processed:

Work Orders	33
Back Charges	24
Service Orders	30

CONTRACTS AND NEGOTIATIONS:

Supplemental Agreement was entered into with the following firm:

Vance Properties, Inc. - Supplemental Agreement No. III, dated January 11, 1950, covering the establishment and operation of a travel agency and corset shop, under sublease, and also the terms and conditions for the operation of the private dining room and service bar in the Desert Inn.

C. D. Joseph, of the Automatic Laundry Company, was authorized to sublet space in his new building in the Uptown Business Area to Mrs. Anne Schassberger for the establishment and operation of a ladies and children's shoe salon, to be known as "The Bootery".

John F. Gerdes was authorized to sublet space in his service station building to Floyd Johnson and Dale Sylvester for the operation of a motor tune-up service.

An award was made to Spencer-Kirkpatrick Insurance Agency to construct a business building in the Uptown Business Area.

A Super-Market Food Store award in the Uptown Business Area was made to Virgil O. McVicker, Richland, Washington. Mr. McVicker is expected to construct a building for subleasing to C & H Foods.

An award was made to H. A. Andrews and Gordon Matthews, Walla Walla, Washington, for a children's playland in the Light Industrial Area. They are expected to construct their own building and amusement facilities.

COMMERCIAL FACILITIES EXPANSION PROGRAM:

	<u>January</u>	<u>February</u>
1. Number of Government-owned Buildings	35	35
(a) Number of businesses operated by Prime Lessees	48	48
(b) Number of businesses operated by Sublessees	9	9
(c) Total businesses operating in Government-owned buildings	57	57
2. Number of Privately-owned Buildings	25	27
(a) Number of businesses operated by Prime Lessees	26	28
(b) Number of businesses operated by Sublessees	9	10
(c) Total businesses operating in Privately-owned Buildings	35	38
3. Total Number of businesses in operation	92	95
4. Privately-owned Buildings under construction	5	4
5. Ground leases awarded	0	3

The following Commercial Facilities opened for business this month:

Launderland, a serve-yourself laundry, opened for business February 6 in the Uptown Business District.

Lil-Dale Sewing Center opened for business February 9 in the Uptown Business District.

The Mixer, a combination restaurant and billiard room, opened for business February 16 in the Uptown Business District.

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REQUESTS FOR ESTABLISHMENT OF BUSINESSES IN RICHLAND:

A number of individuals and firms, the majority of which were not interested in constructing their own buildings, expressed a desire during the month to establish and operate businesses in Richland. The types of establishments desired are shown in the following list:

- Outdoor Advertising
- Auto Agency
- Building Materials
- Clothing for Plant Workers
- Garage
- Hardware Store
- Optometrist
- Photographic Studio
- Restaurant
- Skating Rink
- Service Station
- Variety Store

COMMUNITY DIVISIONS

COMMUNITY HOUSING DIVISION

February, 1950

ORGANIZATION AND PERSONNEL

February

Number of employees on payroll

Beginning of month

40

End of month

40

RICHLAND HOUSING

Housing Utilization as of Month End

Houses Occupied by Family Groups	Conven- tional	Block	T	Pre- Cut	Ranch	Pre- Fab	Apt.	Tract	Total
Operations	2217	269	1	378	838	1145	63	41	4952
Commercial Facilities	98	6		26	69	63		4	266
Community Activities	10			2	8	5		2	27
Post Office	5				3	14		3	25
Government	103	35		12	34	25	2	4	215
Schools	42			5	12	49	1		109
Kellex Corporation	1	5		3	1				10
Atkinson-Jones	9	15		5	10	2	3		44
J. G. Turnbull	1	1		3	5	6	1		17
C. T. Main Co.	2			2		1	1		6
J. A. Terteling			8	1	2				11
Newberry Neon	2	1		1					4
Vernita Orchards								3	3
Urban-Smythe & Warren					1				1
TOTAL HOUSES OCCUPIED	2490	332	9	438	983	1310	71	57	5690
Houses assigned - awaiting tenants	9	1	1	11	13	21	3	3	62
Houses assigned - (Leases written	1			1	4	1			7
TOTAL HOUSES	2500	333	10	450	1000	1332	74	60	5759

COMMUNITY HOUSING DIVISION

Housing Turnover During Month	Begin Month	Moved In	Moved Out	Month End	Diff-erence
Conventional Type	2482	17	9	2490	Plus 8
Block Type	333	1	2	332	Minus 1
T Type	10	1	2	9	Minus 1
Precut Type	437	9	8	438	Plus 1
Ranch Type	976	25	18	983	Plus 7
Prefab Type	1308	27	25	1310	Plus 2
Apartments	70	2	1	71	Plus 1
Tract	57	0	0	57	None
TOTAL	5673	82	65	5690	Plus 17

Dormitory Statistics

Dormitories	Occupants	Vacancies	Total Beds
Men - Occupied 13	472	44	516
Men - Unoccupied			
Women - Occupied 13	*455	**176	631
Women - Unoccupied 2			

Women's Dormitories

occupied by:	
G. E. Office	1
Education	1
Apartments	1
	<u>31</u>

* This includes space of 4 beds in W-9 used for supply rooms and dormitory offices.
 **This includes 100 beds in "Standby Condition" in W-17 and W-20.

GENERAL

Allocation Section Statistics

Total houses allocated to new tenants	44
Exchanged houses	22
Moves (within the Village)	18
Total new leases signed	82
Turnovers	4
Houses sent to renovation	36
Houses assigned "As Is"	26
Terminations	35
Total Cancellations	65
Applications Pending	203
Voluntary terminations:	14
R. O. F.	6
Transfers	4
Retirements	2
Moves off Project	15
Death of lessee	1

Three prefabs at Columbia Camp were leased on February 2, 1950. Two of them are occupied by employees of the Corps of Engineers, and one by the caretaker of the Camp.

A ranch house located at 645 Cottonwood caught fire and burned on February 2. The fire was caused by ashes in a combustible container and the damage amounted to \$2,804.00.

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TENANT RELATIONS

Processing of Service Orders, Work Orders and Service Charges

	<u>Issued from January 31 to February 28</u>	<u>Incomplete February 28</u>	<u>Issued Previous Month</u>
Service Orders	3361	381	4685
Work Orders	808	1672	866
Service Charges	174	8	225

53 Conventional houses were painted on the interior by project forces as compared to 89 the previous month.

13 Prefabricated houses were painted on the interior by project forces.

14 Kitchens and bathrooms were repaired and painted as compared to 18 bathrooms the previous month.

12 Conventional houses had floors sanded and refinished.

51 Precuts were jacked up and shimmed as compared to 33 the previous month.

53 A & J houses were jacked up and shimmed.

41 Prefab foundations were repaired and leveled as compared to 51 the previous month.

ITEMS OF INTEREST

	<u>TOTAL OUTSTANDING</u>	<u>TOTAL OUTSTANDING PREVIOUS MONTH</u>
Laundry tubs	40	15
Bathtubs	132	116
Sink Linoleum	170	107
Bathroom tileboard	288	181
Bathroom linoleum	183	14
Kitchen floor linoleum	32	36

Alteration permits issued during the month of February totaled 49 as compared to 38 the month of January.

Automatic washers	8	Remove broom closet	3
Basement partition	1	Refinish floors	6
Basement excavation	3	Reverse range and refrigerator	2
Door to coal bin	1	Water softener	2
Fence	9	Clothes dryer	1
Driveway	2	Tool shed	2
Dog pen	1	Back door in prefab	1
Air conditioner	2	Clothes poles	1
Flower box	1	Bathroom cabinet door	2
Electric switch	1		

TENANT RELATIONS

1011 Inspections were made during the month of February. A breakdown of the inspections shows the following distribution:

Window shades	58	General Inspections	92
Lot Lines	10	Top Soil	20
Tile in bathroom	54	Floorboards	41
Sidewalks	60	Leaking Basements	45
Linoleum	103	Walls	136
Alteration permits	54	Miscellaneous	338

In addition to the above, Field Clerks have been checking on sand blown on yards and parking of trailers in yards.

Freeze-Ups

Freeze-ups starting December 20, 1949 including February 5, 1950 totaled 1147.

Prefabs	547	Tract	15
Precuts	427	Terteling	9
A & J	58	Apartments	10
Ranch	50	Dormitories	2
Conventional	29		

M. S. WAREHOUSE

MONTHLY SUMMARY

DATE 1-26-50 thru 2-24-50

TOTAL INVENTORY \$106,403.36

ITEMS

AMOUNT

INV. ITEMS TOTAL

Received Inventory Items	1237	\$2779.80	
Received on Store Orders	6405	2019.30	
Received on Purchase requisition	705	1269.86	\$68,177.99
Disbursed Inventory Items furn.	59	738.22	<u>6,068.96</u>
Dorm Furniture	69	811.07	\$74,246.95
Free issue	859	2204.00	
Cash	39	73.79	
Dorm Supplies	3018	1038.86	
Warehouse Supplies	3039	56.05	
Dorm Linens	456	514.79	
Dorm Shades	220	340.58	
TOTAL INVENTORY ITEMS DISBURSED-			\$5,777.36
INVENTORY ITEMS BALANCE-			-\$68,469.59

PLANT ITEMS INVENTORY

RECEIVED	32	3482.86	
BALANCE			40,679.73
DISBURSED	20	1645.02	
TOTAL PLANT ITEMS INVENTORY			39,034.71

- - - GRAND TOTAL INVENTORY

\$107,504.30

PIECES

Dorm Furniture Exchange	174
Range Exchange	5
Refrigerator Exchange	4
Sent to Maintenance	193
Received from Maintenance	139
Pre-Fab Heaters Exchanged	34

COMMUNITY SAFETY DIVISION

FEBRUARY 1950

ORGANIZATION AND PERSONNEL

	February
Number of employees on Payroll	
Beginning of month	3
End of month	3

GENERAL

The Parent and Student Council mentioned in the January report in reference to the Bicycle Safety Program, will sponsor the April Safety Campaign which will be themed "Child Pedestrian and Bicycle Safety". They are planning an extensive campaign for that month.

During February the Supervisor of Community Safety Division attended a course on Public Education for Traffic Safety at the University of California. Directors of the course were W. O. Kyte, Sales Promotional Advertising Manager of the General Electric Co., Los Angeles, and Virginia Hackett, National Safety Council, Chicago. There were speakers such as Alan Courtney, National Broadcasting Co., Don McNamara, Tela-Film, Inc., Professor Brant, University of California, Dick Farrel, Los Angeles Daily News, Robert E. G. Harris, Los Angeles Times, and many others. The course was well worth the effort of attending it, and many new ideas were derived.

Richland had minor newspaper publicity on the February campaign, which was "Know And Obey Traffic Laws and Signs".

The 1949 Annual Inventory of Traffic Safety Activities for Richland was completed and submitted to the National Safety Council Traffic Committee. It was received by them on February the 22nd.

This office reviewed the proposed school board's agricultural class room for fire and safety aspects and plans have been forwarded on to the Engineering Section. Also the inspection of the Latter Day Saint Church in respect to Fire Safety has been reviewed by this office.

The Fire Prevention Survey which was requested by A.E.C. the latter part of 1949 is underway. The survey for the schools, which will be completed first, should be ready to leave this office the week of the 3rd or 6th of March. The surveys of the schools will be recommendations made to A.E.C. Safety Section, and A.E.C. Engineering Section will make cost estimates, etc. This applies to school board property only.

Weather conditions have held up the completion of the painting and conditioning of the new twenty-four sheet billboards. If the weather permits, this shall be done in the very near future.

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COMMUNITY DIVISION REPORT
 COMMUNITY FIRE PROTECTION DIVISION

February 1950

Organization and Personnel

Number of employees on payroll	<u>February</u>	
Beginning of the month	128	
End of the month	128	
	<u>Richland</u>	<u>North Richland</u>
Response to alarms	16	3
Fire loss (estimated)		
Hanford Works	\$2,929.00	\$ 40.00
Personal	196.00	1,135.00
Investigation of minor fires and incidents	16	4
Safety Meetings	16	8
Outside drills	3	18
Inside drills	72	34
Alarm boxes tested	173	75

Note: Damage estimates on two Richland fires not compiled in time for the January report, amounted to \$755.00 Government loss and \$825.00 personal loss, bringing the totals for January to \$833.00 Government loss and \$830.00 personal loss.

Fire Department Activities

1. Performed salvage operations at 411 Basswood following a break in a water pipe inside the house.
2. Spot checks of Richland and North Richland fire hydrants were continued during unusually cold weather.
3. Two men with aerial ladder truck dispatched to Government Airport to assist on electrical repair of revolving beacon light atop hangar.
4. Men dispatched from North Richland station to test Columbia Camp water system risers and hose boxes. Hose was replaced in one box.
5. Auxiliary alarm boxes tested in North Richland theatre, hospital Pasco-type barracks and women's barracks.
6. Twelve lengths (600 feet) 2½ inch hose transferred to Transportation Division labor group.

COMMUNITY FIRE PROTECTION DIVISION

February 1950

Richland Fire Prevention

1. Inspections

700 Area Buildings	87
1100 Area Buildings	64
Commercial Facilities (Gov't owned)	77
Schools, Churches and Clubs	28
Areas around buildings	<u>89</u>
Total	343

2. Fire Extinguishers

Inspected	788
Recharged	33
Relocated	11
Removed	4

3. Fire Investigations

2-8-50: A small fire occurred in 706 Building when some chemicals were mixed in a metal disposal can. Chemist in building used 10 lb. carbondioxide extinguisher to successfully extinguish fire and notified Fire Marshal. No damage. Extinguisher replaced.

4. Fire Prevention Lectures:

2-23-50: "Fire Safety in the Home" was subject of lecture delivered to 70 Public Works Division employees safety meeting.

2-24-50: "Fire Safety" lecture made to 27 Purchasing Division employees at a safety meeting.

5. Miscellaneous Fire Prevention Activities:

Inspections in government-owned buildings housing commercial facilities revealed stock well arranged and housekeeping generally good.

Replacement parts obtained for frozen sprinkler valve under wing "A" of Kadlec Hospital. Parts were installed and system returned to normal February 9th.

Covered enclosures at outside stairs leading to sprinkler system pits under "A" and "B" wings of Kadlec Hospital completed at suggestion of Fire Marshal's office. This project was instigated to prevent future freezing of sprinkler systems in extreme weather.

A meeting was held with the Kadlec Hospital administrative staff relative to a simplified evacuation procedure. When completed, the plan is to be reviewed for approval.

At the Fire Marshal's suggestion, the Kadlec Hospital administrator requested a committee representing Operations Fire and Safety, Community Safety and A.E.C. Fire and Safety Divisions to investigate the

Eight man-hours were spent in recharging carbon-dioxide extinguishers for the Atomic Energy Commission.

On recommendation of Fire Marshal, a test was made with insulation used against steampipes under dormitories. Samples were wrapped around a 450-degree steampipe at the power house and left for three hours. No signs of char were detected.

An inspection was made of the school agricultural farm buildings on George Washington Way. Rather than to continue the cooking of hog food on open fires, recommendation was made for the installation of an enclosed gas-fired cooker. Since no water is available for fire protection, recommendation was also made for installing a wheel-type 40-gallon fire extinguisher.

COMMUNITY DIVISIONS

COMMUNITY PATROL

FEBRUARY 1950

ORGANIZATION AND PERSONNEL

	<u>February</u>
Number of employees on payroll:	
Beginning of month	83
End of month	<u>84</u>
Net Increase:	1
Reason: 1 Reactivation:	

GENERAL

On February 6, 1950, the Washington State Patrol began issuing and renewing drivers licenses at Community Patrol Headquarters on Mondays only.

During the month the Community Patrol cooperated with the Ice and Flood Committee which was organized on February 7, 1950, for the purpose of correlating flood control activities.

On February 8, 1950, a master key to the Bremerton Houses was furnished the North Richland Patrol.

On February 9, 1950, Capt. C. F. Klepper and Capt. W. A. Ziegler visited the Yakima Police Department for the purpose of inspecting their records division and for reviewing other police operating methods and procedures with them.

On February 16, 1950, the responsibility of opening the 705 Building each morning was transferred to the 700 Area Patrol.

During the month, 35 Traffic Violation Reports were received which consisted mainly of Accidents, Negligent Driving, and Failure to Stop and Identify. A total of 23 other reports were received which consisted mainly of Petit Larceny, Family Disturbance, Burglary, and Larceny by Check.

During the month, a total of 78 letters were received, consisting of 73 inquiries on arrests and 5 requests for assistance.

During the month, 6 prisoners were processed through the Richland Jail.

During the month, 23 gun registrations were taken by Community Patrol.

During the month, 389 bicycle registrations were taken by Community Patrol.

TRAFFIC

On February 10, 1950, the control box for the traffic semaphore on Goethals Drive was relocated from Mansfield Circle to the Knight and Goethals intersection.

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Community Patrol Division - Continued

A large book of exhibits was mailed to the National Safety Council on February 15, 1950, covering progress made during the past year. The exhibits, together with information forms, will be forwarded to the National Traffic Contest judges. Richland rated second position in the nation during 1949 as one of the three "No Traffic Death" cities, according to information from the National Safety Council.

Twelve traffic safety lectures were made to plant and civic groups during the month. A new film "The Careless Driver" was shown to each of the groups.

TRAINING

Subjects covered in the lieutenant's training classes for the month of February were as follows:

Directing Traffic
 Citation Tickets
 Sex Complaints
 Legal Questions
 Exchange of Information
 Suspicious Persons
 Police Bulletins

Advance training for Community Patrol members at the small arms range for the period in field instruction was as follows:

Pistol 2 hours

The .38 caliber revolver was used in double action firing. No score was kept.

A total of 59 men reported to the Range for training.

ACTIVITIES AND SERVICES (RICHLAND)

	<u>December</u>	<u>January</u>	<u>February</u>
Check on absentees	6	10	2
Persons assisted *	186	184	189
Doors & windows found open in commercial facilities	30	29	40
Lost children found	8	5	4
Ambulance runs	29	26	34
Lost dogs reported	8	9	15
Dog, cat, loose stock complaints	56	43	116
Persons injured by dogs	4	3	4
Bank escorts and details	40	41	35
Fires investigated	23	28	26
Miscellaneous escorts	16	17	20
Complaints investigated	126	29	20
Natural deaths reported	3	2	1
Suicide investigated	1		
Missing persons reported	4		
Totals	540	426	506

* Includes: Assisting other departments, assisting outside police agencies, assisting private persons, delivering emergency messages, etc.

Community Patrol Division - Continued

ACTIVITIES AND SERVICES (NORTE RICHLAND)

	<u>December</u>	<u>January</u>	<u>February</u>
Check on absentees	0	1	1
Persons assisted *	64	101	86
Doors & windows found open in commercial facilities	19	65	122
Lost children found	1	0	0
Ambulance runs	0	0	2
Lost dogs reported	0	0	0
Dog, cat, loose stock complaints	0	0	0
Persons injured by dogs	1	2	0
Bank escorts and details	20	21	25
Fires investigated	3	4	1
Miscellaneous escorts	10	7	6
Complaints investigated	33	0	1
Natural deaths reported	0	0	0
Suicide investigated	0		
Missing persons reported	0		
Totals	151	201	244

* Includes: Assisting other departments, assisting outside police agencies, assisting private persons, delivering emergency messages, etc.

NOTE: Effective last month the following changes in the Activities and Services report were made: Complaints investigated - includes those where no enforcement action was taken. Those with such action are shown in the Crime Report. Missing persons - included in Crime Report. Suicide investigated - included in Crime Report. Doors and windows found open in commercial facilities - includes all warehouses, schools, and commercial facilities.

COMMUNITY PATROL DIVISION

FORCE REPORT

FEBRUARY 1950

<u>Patrol</u>	<u>Entire Patrol 1-31-50</u>	<u>Entire Patrol 2-28-50</u>
Patrol Supervisor	1	1
Captains	5	5
Lieutenants	8	8
Sergeants	11	11
Patrolmen	<u>54</u>	<u>55</u>
Totals	79	80
 <u>Clerical</u>		
Steno-Typists	2	2
Clerks	<u>2</u>	<u>2</u>
Totals	4	4
Grand Totals	83	84

Reason for Increase

1 Reactivation

COMMUNITY PATROL DIVISION
 RICHLAND JUSTICE COURT CASES

February 1950

VIOLATION	NO. OF CASES CONV.	NO. OF FORF.	NO. OF CON'T.	CASES PEND.	WARR. ISS.	SENT. JAIL	SENT. SUSP.	LIC. REV.	TOTAL FINES	TOTAL SUSP.	TOTAL BAIL
Drunken Driving	3	3						3	\$232.50		
Reckless Driving	7	4	1	1					\$80.00	\$30.00	\$62.50
Negligent Driving	15	8		1	1				\$97.50	\$12.50	\$87.50
Speeding ***	15	5	1	2					\$27.50		\$51.50
Stop Sign	7	5	1						\$38.00	\$5.00	\$7.50
No Driver's License ****	4	4		1					\$62.00	\$30.00	
F.T.Y.R.O.V. **	1	1							\$5.50	\$5.50	
F.T.Y.R.O.W. To. Ped.	1	1							\$17.50	\$17.50	
F.T.S.&I.	1	1									
F.T.S. & I. with Unatt. Veh.	1	1							\$19.00	\$7.00	\$5.50
Illegal U Turn	9	5							\$5.50	\$7.50	\$14.00
Improper Parking *	2	1							\$7.50	\$7.50	\$5.00
No Lic. Plates on Trl.	2	1							\$7.50	\$7.50	\$5.00
No Valid Lic. Plates	2	1									\$17.50
Public Intoxication	1	1									
Third Degree Assault	1	1									
TOTAL	70	38	26	4	5	1	1	3	\$592.50	\$115.00	\$258.50

1 - Reckless Dr., case red., to Neg. Dr.

1 - Spdg., case orig., in Jan., tried in Feb., - Forf: \$7.50
 1 - Neg. Dr. case orig., in Nov., - 1949, tried in Feb., Fined \$12.50
 1 - Dr. Lic., case orig., in Nov., - 1949, tried in Feb., Fined \$7.50

Cases Proc., thru Crt..... 70
 Other cases incl., with above viol..... 9
 Cases Pend..... 5
 Cases orig., in prev., mo's & tried in Feb..... 3
 TOTAL CASES: 87

** 1 - Dr. Lic. case incl. with this viol.
 * 1 - Lic. Plates case incl. with this viol.
 *** 1 - Stop Sign case incl with this viol.
 *** 4 - Dr. Lic., cases incl., with this viol.
 *** 1 - Stop Light case incl with this viol.
 **** 1 - Veh. Lic. case incl with viol.

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COMMUNITY PATROL DIVISION
NORTH RICHLAND JUSTICE COURT CASES

February 1950

VIOLATION	NO. OF CASES CONV.	NO. OF FORF.	CASES CON'T.	CASES PEND.	YARR. ISS.	SENT JAIL	SENT. SUSP.	LIC. REV.	TOTAL FINES	TOTAL SUSP.	TOTAL BAIL.
F.T.Y.R.O.W.	1								\$7.50		\$24.00
Stop Sign	9	5							\$18.50		
Speeding *	3		1						\$15.00		
Lic. Plates **	5	1							\$40.00	\$15.00	\$17.50
Public Intoxication	1	1							\$12.50		
	19	12	1	0	0	0	0	0	\$93.50	\$15.00	\$41.50

1 - Failure to Flare Stalled Veh., case orig., in Jan, & tried in Feb., Fined \$5.50

Cases Proc., thru Crt.....	19
Other cases incl., with above.....	3
Cases Pending.....	0
Cases orig., in prev., mo's., and tried in Feb.....	1
TOTAL CASES:.....	23

* 2 - Dr. Lic. cases incl., with this viol.
** 1 - Dr. Lic. case incl., with this viol.

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PATROL DIVISION - TRAFFIC CONTROL STATISTICS

February - 1950

MOTOR VEHICLE ACCIDENTS:

	Total Number		Fatalities		Major Injuries		Minor Injuries	
	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.
Richland	33	18	0	0	0	0	0	2
North Richland	3	5	0	0	0	0	0	0
Totals	36	23	0	0	0	0	0	2

ACCIDENT CAUSES:

	Negligent Driving		Failure to Yield Right of Way		Reckless & Drunken Driving		Other Causes	
	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.
Richland	4	2	10	6	1	0	18	10
North Richland	0	1	2	2	0	0	1	2
Totals	4	3	12	8	1	0	19	12

PLANT VARNING TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Parking		Imp. License		Def. Equipment		Other Violations		Totals	
	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.
Richland	0	0	0	1	34	72	1	26	2	2	0	0	37	101
N. Richland	0	0	1	0	21	44	1	1	3	9	0	0	26	54
Totals	0	0	1	1	55	116	2	27	5	11	0	0	63	155

TRAFFIC CHARGES AND COURT CITATION TRAFFIC TICKETS ISSUED:

	Speeding		"Stop" Sign		Drunken Dr.		Right of Way V.		Neg. Dr.		Parking V.		Other V.		Totals	
	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.
Richland	12	15	2	18	2	3	2	6	4	9	8	9	22	24	53	86
N. Rich.	0	3	1	9	1	0	0	1	1	0	1	0	8	9	12	22
Totals	12	18	3	27	3	3	2	7	5	9	9	9	30	33	65	108

TRAFFIC VOLUME: Average 24-hour Traffic Volume Count for week ending on 2-24-50, on George Washington Way north of Knight Street - 7,165 Cars.

Note: Traffic Control Statistics show ORIGINAL CHARGES ONLY.

COMMUNITY PATROL DIVISION
RICHLAND CRIME REPORT
FEBRUARY, 1950

Classification of Offenses	Offenses Known or Reported to Patrol	Actual Offenses		Offenses Cleared by Arrest	Offenses Cleared by Other Action	Perpetrators Involved
		Unfounded	February			
Assault.....	1	0	1	1	0	1
Possible Attempted Arson...	1	1	0	0	0	u
Burglary.....	3	0	3	0	0	u
Breaking & Entering.....	0	0	0	0	0	0
Attempted Brk. & Entering..	2	1	1	0	0	u
Larceny by Check.....	2	0	2	1	1	2 (a)
Forgery.....	0	0	0	0	0	0
Larceny (Except Auto & Bikes)	6	1	5	0	3	2 (b)
Over \$50.00.....	23	0	23	1	18	6 (c)
Under \$50.00.....	12	0	12	0	6	u (d)
Bike Theft.....	1	0	1	0	1	1 (d)
Dest. of Personal Property.	2	0	2	0	0	u
Dest. of Government Prop....	2	0	2	0	0	u
Loss or Theft of Gov't. Prop.	3	0	3	1	1	3 (e)
Investigation.....	3	0	4	0	2	2
Disturbance.....	3	0	3	1	0	1
Public Intoxication.....	1	0	1	1	0	0
Public Nuisance.....	0	0	0	0	0	0
Pickup For Outside Agency..	0	0	0	0	0	0
Offense Against Family & Child.	4	0	4	0	4	4
Missing Persons.....	2	0	2	0	2	2
Carnal Knowledge of Minor..	0	0	0	0	0	0
Vandalism.....	3	0	3	0	0	u
Malicious Mischief.....	2	0	2	0	0	u
Molesting.....	1	0	1	0	0	u
Auto Theft.....	0	0	0	0	0	0
Prowlers.....	2	0	2	0	0	u
Counterfeit Money.....	0	0	0	0	0	0
Obtaining Money UFP.....	0	0	0	0	0	0
TOTALS.....	76	3	73	5	38	22

(Continued on Page Two)

PAGE TWO
COMMUNITY PATROL DIVISION—RICHLAND CRIME REPORT—FEBRUARY, 1950

- (a) 1 Case Perpetrated by 1 Juvenile Age 20.
- (b) 1 Case " by 2 Juveniles Ages 15 & 16.
- (c) 1 Case " by 1 Juvenile, Age 12.
- 8 Cases " by 1 Juvenile, Age 15.
- 8 Cases " by 1 Juvenile, Age 13.
- 1 Case " by 1 Juvenile, Age 13.
- 1 Case " by 1 Juvenile, Age 19.
- (d) 1 Case " by 1 Juvenile, Age 7.
- (e) 1 Case " by 4 Juveniles, Ages 15, 16, 16, 16.

u. Represents Unknown.
Property Recovered During the Month—\$389.23 (6 bikes)
No Colored Persons Involved.

COMMUNITY PATROL DIVISION
NORTH HIGHLAND CRIME REPORT
FEBRUARY, 1950

<u>Classification of Offenses</u>	<u>Offenses Known or Reported to Patrol</u>	<u>Offenses Unfounded</u>	<u>Actual Offenses January</u>	<u>Actual Offenses February</u>	<u>Offenses Arrested</u>	<u>Cleared by Other Action</u>	<u>Perpetrators Involved</u>
Possible Attempted Arson.....	1	0	0	1	0	0	u
Larceny (Except Auto & Bike)	0	0	0	0	0	0	0
Over \$50.00.....	1	0	3	1	0	0	u
Under \$50.00.....	1	0	1	1	1	0	1
Public Intoxication.....	1	0	0	1	0	1	1
Investigation.....	1	0	0	1	0	0	1
Vandalism.....	1	0	0	1	0	0	u
TOTALS.....	5	0	4	5	1	1	2

There were no Juveniles or Colored Persons Involved.
 u Represents Unknown.

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COMMUNITY PATROL DIVISION
CRIME COMPARISON REPORT
FEBRUARY, 1950

Number of offenses known to police per 25,000 inhabitants in cities of 25,000 inhabitants:

Class.	Wash. Oregon & Calif.		Richland		North Richland		Richland		North Richland	
	Six Months (Jan-June 1949)	One Month Average	Six Months (Jan-June 1949)	One Month Average	Six Months (Jan-June 1949)	One Month Average	January 1950	February 1950	January 1950	February 1950
Murder	.60	.10	0		0		0	0	0	0
Robbery	15.80	2.63	0		1		0	0	0	0
Aggrav. Asslt.	10.15	1.69	4		16		0	1	0	0
Burglary	90.90	15.15	8		5		0	5	0	0
Larceny	254.22	42.37	181		97		23	29	3	1
Auto Theft	38.4	6.40	4		5		1	0	0	0

Number of offenses known to police per 25,000 inhabitants regardless of whether offenses occurred in cities or rural districts:

Class.	State of Washington		Richland		North Richland		Richland		North Richland	
	Six Months (Jan-June 1949)	One Month Average	Six Months (Jan-June 1949)	One Month Average	Six Months (Jan-June 1949)	One Month Average	January 1950	February 1950	January 1950	February 1950
Murder	.79	.13	0		0		0	0	0	0
Robbery	11.25	1.87	0		1		0	0	0	0
Aggrav. Asslt.	3.82	.63	4		16		0	1	0	0
Burglary	74.35	12.39	8		5		0	5	0	0
Larceny	241.60	40.26	181		97		23	29	3	1
Auto Theft	38.05	6.34	4		5		1	0	0	0

The portion of offenses committed by persons under the age of 25 years, is shown by the following figures:

Class.	National Average		Richland		North Richland		Richland		North Richland	
	Six Months (Jan-June 1949)	One Month Average	Six Months (Jan-June 1949)	One Month Average	Six Months (Jan-June 1949)	One Month Average	January 1950	February 1950	January 1950	February 1950
Robbery	53.4		0		0		0	0	0	0
Burglary	59.9		1		0		0	0	0	0
Larceny	45.1		25		44		3	20	0	0
Auto Theft	67.8		3		0		0	0	0	0

Note: Statistics of juvenile offenses throughout the United States were taken from the Uniform Crime Report published by the Federal Bureau of Investigation, which states: "It should be remembered that the number of arrests recorded is doubtless incomplete in the lower age groups because of the practice of some jurisdictions not to fingerprint youthful offenders."

COMMUNITY DIVISIONS

COMMUNITY - ACTIVITIES DIVISION
February, 1950

ORGANIZATION AND PERSONNEL

Number of employees on roll

Beginning of month		12
Additions	0	
Terminations	<u>0</u>	
End of Month		12

SCHOOLS

The following is a tabulation of full-time paid School District #400 personnel as of February 28, 1950:

Administration	6
Principals & Supervisors	16
Clerical	18
Teachers	244
Health Audiometer	1
Building Custodians	51
Cooks	37
Nursery School & Ex. Day Care	11
Bus Drivers	2
Farm Manager	<u>1</u>
	387

CLUBS AND ORGANIZATIONS

As of February 28, 1950, organization's personnel include:

Villagers, Inc.	7
American Legion	2
Coordinate Club	1
Youth Council	1
Boy Scouts	1
Camp Fire Girls	2
Hi-Spot Club	2
Red Cross	3
Castle Club	1
Post Office	44
Veterans Administration	2
Girl Scouts	2
Masonic Lodge	1
Justice of Peace	<u>1</u>
	70

Community-Activities Division

Final arrangements were made on February 2, 1950, for the Village Players to use a paint hutment for the painting of the sets for the production of "No. Time For Comedy."

On February 3, 1950, the Gonzaga Glee Club presented a concert in the Carmichael Junior High School auditorium before a capacity house. The Richland Gonzaga Alumni Association were the sponsors for this concert. Profits will be used for a scholarship.

Mrs. Helen Louise Holmquist was the guest artist for the Symphony Concert held in the Carmichael Junior High School auditorium on Sunday afternoon, February 5, 1950. The orchestra is composed of musicians from Richland residents with five members from the surrounding areas.

Nine hundred sixty-five Boy Scouts observed the 40th Anniversary of the Boy Scout Movement during the week of February 6 - 11. The original troop of 20 boys was organized in December, 1943. The organization has expanded to its present size of 8 Packs, 8 Troops, and 2 Explorer Units in its seven years of existence in Richland.

An annual review combined with a Valentines Day Dinner for the Scout Leaders and wives was held in the main dining room of the Recreation Hall on February 14. Plans to send scouts and scouters to the National Jamboree were completed.

On February 16 and 17, the regular monthly inspection of all clubs and organizations was made by the Community-Activities Division and the Fire Protection Engineer.

On February 14, at the regular meeting of the Recreation Advisory Committee the following organizations were approved subject to security clearance: American Society of Civil Engineers and H. W. Supervisor's Association. Approval was also given to the Richland Sports Association and the Theatre Workshop to hold organizational meetings.

The Richland Light Opera Company presented the Operetta "H.M.S. Pinafore" on Friday and Saturday February 24 and 25. Near capacity audiences viewed the two evening performances and the matinee performance. The All Saints Episcopal Church sponsored the programs.

Seventeen Service Orders were issued by the Activities Division during the month. Twenty-four Work Orders were written during the Month of February. These have been reduced as a result of the revised leases.

CHURCHES

The following is a tabulation of full-time paid church personnel, as of February 28, 1950

Community-Activities Division

	<u>Ministers</u>	<u>Staff</u>	<u>Total</u>
Assembly of God	1	0	1
Catholic	2	2	4
Central United Protestant	2	2	4
Church of Christ	1	0	1
Church of God	1	0	1
Episcopal Church	1	0	1
Free Methodist	1	0	1
Foursquare Gospel	1	0	1
Mission Baptist	1	0	1
Mo. Synod Lutheran (Redeemer)	1	1	2
National Lutheran	1	2	3
Nazarene	1	0	1
Regular Baptist	1	0	1
United Protestant - North Richland	1	0	1
United Protestant - West Side	1	0	1
United Protestant - Southside	1	0	1
United Protestant - Northwest	1	0	1
	<u>19</u>	<u>7</u>	<u>26</u>

The Central United Protestant Church choir presented a concert which was open to the general public on February 19, 1950, in the Central United Protestant Church.

On February 16 and 17, representatives of the Activities Division and the Fire Protection Engineer conducted their regular monthly inspection of all government-owned church buildings.

On February 20, the Community-Activities Division received from the Community-Engineering Section the preliminary sketch of the church site requested by the Free Methodist Church. This location is on the southwest corner of Fright Avenue and Symons extended. Contacts have been made with the Free Methodist Church to see if the site meets with their approval.

The church construction program status is listed below:

<u>CHURCH</u>	<u>DATE STARTED</u>	<u>ESTIMATED % COMPLETE</u>	<u>OCCUPANCY DATE</u>
Nazarene Church	April 12, 1949	98%	11/30/49
Latter Day Saints	February 5, 1949	70%	
Latter Day Saints (Reorganized)	August 22, 1949	20%	
U. P. Southside	November 5, 1948	98%	4/10/49
Richland Baptist	November 27, 1949	98%	4/17/49
Church of Christ	December 21, 1949	45%	

Community-Activities Division

RECREATION

Trophies were awarded to all "Hoop Shoot" winners for the Richland contest in all age brackets at Columbia High gymnasium on February 7. District finals of the "Hoop Shoot" contest were held at Columbia High School on February 14. Charles Gant, 1016 McPherson, was the winner. Mr. Gant competed in the finals at Seattle on February 25, and placed sixth in the State.

Archery instruction classes for juniors were started February 25. The indoor archery range at the Columbia High School girls' gymnasium is utilized for this activity. Classes for elementary school age children are held from 1:30 PM to 3:00 PM, and older children meet from 3:00 PM to 4:30 PM each Saturday afternoon. Thirty-one children were enrolled in the initial sessions. Instruction is provided by the Roving Bowmen Archery Club and overall supervision and administration is handled by the Recreation Section.

The Roving Bowmen have utilized the indoor archer range on Friday evenings. The initial session was on February 3.

On February 27, a meeting was held to discuss the various plans and regulations for the kite contest to be sponsored by the Recreation Section. Volunteer assistance will be provided by the Junior Chamber of Commerce, the schools, and the Youth Council.

Due to unavoidable complications in planning and administering the News Forum, the date for the forum has been tentatively set for April 20.

The winter recreation program now includes a badminton and ping pong group on Friday nights at Spalding Grade School gymnasium. The initial night was February 3. Instruction is offered to beginners and informal play progresses from 7:00 to 10:00 PM. Average attendance to date is seventeen (17) per night. Volunteer instructors are provided by the Richland Badminton Club.

Summary of the month's participation in the recreational activities sponsored by Community-Activities Division:

	<u>No. Sessions</u>	<u>No. Participants</u>
Women's Sport Night	4	87
Co-Rec Sports	4	116
Men's Sports	3	59
Badminton & Ping Pong	4	66
Fencing Class	3	28
Junior Archery	1	31
Weight Lifting	9	164 (104 teen-agers)
Total	<u>28</u>	<u>551</u>

Preliminary plans have been made for the formation of a theatre work shop to be co-sponsored by the Richland Players, Inc. and the Recreation Section. This project will provide an opportunity for participation in the various phases of dramatics.

Community - Activities Division

A Recreation Survey covering facilities (grounds, equipment, etc.), leadership, and expenditures for seven Washington cities has been completed. Cities included in the survey were Pasco, Kennewick, Yakima, Bremerton, Bellingham, Olympia, and Vancouver. The survey was made for the purpose of determining standards of neighboring cities and those of comparable size to Richland as an aid in developing areas and establishing facilities in Richland.

Ice skating facilities at the Columbia Playfield were maintained through the first week of February. Participation at the rink throughout the entire period of operation was low due to extremely low temperature and heavy snowfall.

Maintenance work was started at play areas - ball diamonds and tennis courts - in order to have facilities available for use by March 15.

Community Service

Arrangements were made for the loan of three industrial films to the Columbia High School for educational purposes. The films were made available by the Richland Section of the American Chemical Society.

Community bulletin boards were located on Flight Avenue near the C & H Grocery and in the uptown business district south of the Davis Furniture Store.

The Community-Activities Division assumed the following duties and responsibilities in the conduct of the School Board and Community Council elections on February 4:

1. Arranged for the transportation of all election equipment from Prosser to the voting places, and returning same to Prosser after the election.
2. Assistance in contacting election officials and informing them of arrangements.
3. Arranged for the delivery of registration books, poll books, tally sheets and ballots to voting places.
4. Arranged for the printing of 200 Community Council tally sheets and 5500 Community Council election ballots.
5. Arranged for patrol assistance in delivery of poll books, tally sheets and registration books from voting places to the election headquarters in the 720 Building, Community-Activities Division office.
6. Had on duty one supervisor throughout the election day and until the final tabulation of votes was made.

Community - Activities Division

Park Development

The construction program for the Richland Park System for the fiscal years of 1950 through 1955 was completed during the Month of February.

The Richland Park System write-up was completely rewritten during the month.

A large scale map of the Richland Park System has been completely revised to coincide with the new write-up.

MAJOR ACTIVITIES DURING MONTH

February	3	Gonzaga Glee Club	Carmichael Junior High
	4	School Board and Community Council Election	All Schools
	5	Symphony Concert	Carmichael Junior High
	7	District #5 Final Hoop Shoot	Columbia High School
6 -	11	Observance of National Boy Scout Week	Community
	14	Valentine Day Dinner - Boy Scouts	Recreation Hall
24 -	25	H. M. S. Pinafore	Carmichael Junior High
25 -	25	Sub-District Basketball Tournament	Columbia High School
	28	Community Concert - Patricia Travers, Violinist	Carmichael Junior High

GENERAL ELECTRIC COMPANY
HANFORD WORKS
COMMUNITY ACCOUNTING DIVISION

MONTHLY REPORT FOR FEBRUARY, 1950

ORGANIZATION

Employees - Beginning of Month	26	Exempt	4	Male	8
Terminations	<u>0</u>	Non-Exempt	<u>22</u>	Female	<u>18</u>
Total - End of Month	<u>26</u>	Total	<u>26</u>	Total	<u>26</u>

The Community Accountant attended a meeting of representatives of Oak Ridge, Los Alamos and Richland which was held in Washington, D.C. the week of February 13, 1950.

<u>Rents</u>	<u>February</u>	<u>January</u>
<u>House Leases Processed</u>		
New Leases	123	97
Modifications	4	4
Cancellations	126	104
Total Active House Leases	5,703	5,706
<u>Dormitory</u>		
New Assignments	81	79
Removals	66	59
Total Occupancy	942	927
<u>Rental Revenue was as follows:</u>		
**Equipment	\$ 163.93	\$ 60.07
*House	254,382.15	255,297.72
*Dormitories	13,072.33	12,580.20
*Facilities	<u>33,617.10</u>	<u>49,658.54</u>
	\$301,235.51	\$317,595.83
Unoccupied Dormitory Revenue Loss	2,725.17	3,217.30
Unoccupied House Revenue Loss	<u>2,739.74</u>	<u>3,775.48</u>
Total Potential Revenue	<u>\$306,700.42</u>	<u>\$324,588.61</u>

* Includes utilities furnished which are collected as a part of the rental.

**Includes coal handling equipment temporarily leased to Northwestern Fuel Co. during cold weather emergency.

The accountability control of houses was verified with the Housing Office and found to be in agreement. House and Dormitory receivable accounts are in good condition.

Seven Facility Operators still have equipment on a rental basis.

Telephone

February

January

Number of Work Orders Processed	685	526
Number of Working Phones	3,890	3,356
Revenue including Services	\$13,939.29	\$11,809.65

Four minor telephone account balances were written off in the net amount of .61 cents.

Work in the telephone section is heavy as evidenced by the increase of 534 working phones and a little over \$2,600.00 in revenue during the month. No increase in personnel has been necessary to date.

Rules and regulations covering rate schedules and application of rates have been compiled in cooperation with the Telephone Section of the Manufacturing Division and will be placed in written form similar to a regular Commercial tariff booklet.

Miscellaneous

Invoices Issued	277	209
Miscellaneous Revenue	3,970.55	751.68

Thirty-two collection letters were written during the month resulting in the collection of \$64.79.

The large increase in revenue from tenant service in comparison to the increase in number of invoices handled is in most part due to the large amounts of backcharges covering work and services performed for the Mart in connection with their renovation program.

The following building permits were issued during the month:

<u>Lessee</u>	<u>Amount</u>
J. C. Robinson	2.00
L. A. Hopkins	109.10
Total February Revenue	111.10
Previously Reported	5,286.51
Total to Date	5,397.61

No Government owned equipment was sold during February.

Total amount sold to date is: \$105,439.97

ACCOUNTS PAYABLE

STATISTICS

February

January

Accounts Payable Vouchers Processed	140	178
Freight Bills Processed	11	13
Purchase Orders Received	52	59
Net Amount of Purchase Orders	\$ 5,762	\$7,598
Receiving Reports Received	61	75
Total Net Amount Disbursed	\$48,779	\$35,325

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A summary of active Community Subcontracts is shown below:

<u>Subcontractor</u>	<u>Subcontract Number</u>	<u>Amount Awarded</u>	<u>Paid This Month</u>	<u>Total Paid</u>	<u>Amount Retained</u>
Frederickson, Dr. J. L.	-----	* 1,483.00	139.00	1,483.00	---0---
Newland Cafeteria	-----	* 5.58	0	5.58	---0---
Richland Maintenance Co.	-----	* 70,856.39	7,443.45	70,856.39	---0---
West Coast Painters Co.	G-219	58,526.79	0	43,974.85	2,926.34
Abrams Aerial Survey Corp.	G-268	14,208.41	14,208.41	14,208.41	---0---
Tacoma Asbestos Co.	G-281	12,667.35	2,959.29	12,667.35	---0---
Holaday & Edworthy, Inc.	G-284	4,700.00	0	0	---0---
Fringle, R. A.	G-289	9,925.57	0	0	---0---
Jurtis Middlebrook & Co. (Service Agreement)	G-290	10,800.00	3,600.00	3,600.00	---0---
		<u>183,173.09</u>	<u>28,350.15</u>	<u>146,795.58</u>	<u>2,926.34</u>

* Total amount of contract will be total of estimates as submitted.

The Community Divisions Obligations and Expenditures report Compilation of B & O Tax, and Report on Overtime meals was submitted for consolidation to the General Division.

The Community Division's estimate of Cash Receipts for February amounted to \$96,500 and estimated cash disbursements were \$67,800.

COST

Reports

The January Operating Report was completed and distributed on February 15, 1950.

The Comptrollers Appropriation Report for January was issued on February 16, 1950.

Budget

A. Operations

Work sheets for each Community Division and Section were completed showing first six months actual cost and provision for the balance of the fiscal year 1950, 1951 and 1952 to be inserted. These sheets were forwarded to each respective office with a request that they be completed and returned to the Cost Division by March 3, 1950.

Estimated assessments to other Divisions were prepared.

B. Construction

A work sheet for use of the Engineering Section was prepared and all data concerning prospective Projects were gathered in preparation for a meeting with the Engineering Section.

Work Orders

A summary of service order statistics for the last two months is listed below.

	<u>Service Orders</u>		<u>Total</u>	
	<u>Jan.</u>	<u>Feb.</u>	<u>January</u>	<u>February</u>
1. Plumbing	775	947	1,943.67	2,685.06
2. Electrical	2,295	2,556	6,049.25	6,488.88
3. Heat & Vent	939	921	3,588.90	3,739.07
4. Glazing	58	133	300.43	669.79
5. Lock & Key	184	390	541.94	1,425.12
6. Carpentry	327	650	761.26	1,776.88
9. Sheet Metal	12	8	87.20	62.92
	<u>4,590</u>	<u>5,605</u>	<u>13,272.65</u>	<u>16,847.72</u>

The new Work Order Forms will be shipped March 20, 1950. The installation date of the new procedure will probably be July 1, 1950. The revisions in our present procedure will not effect our compilation of cost.

Statistics covering regular work orders:

	<u>JANUARY</u>	<u>FEBRUARY</u>	<u>NET CHANGE</u>
Active Routine	484	419	-65
Active Normal	<u>1,372</u>	<u>1,747</u>	<u>+375</u>
	1,856	2,166	+310
Work Orders Received	1,291	1,634	+ 343
Work Orders Completed	<u>1,093</u>	<u>1,324</u>	<u>+ 231</u>
Work Orders Incompleted	<u>+ 198</u>	310	+ 112

GENERAL LEDGER

	<u>No.</u>	<u>Debit</u>	<u>Amount</u>	<u>Credit</u>
Second Class Invoices Received	80	\$395,708.06		\$251,740.28
Second Class Invoices Issued	41	168,750.44		281.60

The January Trial Balance and supporting financial statements were forwarded to the General Division for consolidation on February 17, 1950.

DESIGN AND CONSTRUCTION DIVISIONS

February 1950

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ORGANIZATION AND PERSONNEL

Number of employees on payroll:	
Beginning of month	554
End of month	<u>579</u>
Net increase	25

INVENTIONS OR DISCOVERIES

All persons engaged in work that might reasonably be expected to result in inventions or discoveries advise that, to the best of their knowledge and belief, no inventions or discoveries were made in the course of their work during the period covered by this report except as listed below. Such persons further advise that, for the period therein covered by this report, notebook records, if any, kept in the course of their work have been examined for possible discoveries or inventions.

<u>INVENTOR</u>	<u>TITLE</u>
J. B. Medlin	Charging and Discharging Operation for Special Request Materials
P. P. Smith	Semi-manual Continuous Pile Charging Mechanism
C. C. Reitz	Combined Gas Seal and Guide for Sheet Rods — HDC-1527
George Thayer	Electrical Connectors
John L. Swanson	A Plastic Trap
C. W. Harrison	Final Product Mechanism
C. W. Harrison	Sampler Pipette
R. C. Hoffman	Fire Alarm and Temperature Detection Device

REACTOR DIVISION

I. SUMMARY

"DR" Water Plant

With the assistance of the Principal Mechanical Engineer, D & C Design Staff, a study was made of the problems associated with the expansion of the "DR" Water Plant. Document HDC-1631 describes in detail the results of the study.

DECLASSIFIEDMaterials

Information received from Battelle on the preparation of gadolinium-titanium alloys generally substantiated that obtained previously from Remington Arms. The possibility of obtaining gadolinium-titanium alloys containing up to 4% Gd is very encouraging. Limited results from corrosion tests of zirconium and aluminum alloys in process water show zirconium to be very promising as a tube material and indicate that several aluminum alloys possibly may serve as substitutes for 2S aluminum.

A meeting was arranged with representatives of the Battelle Memorial Institute to discuss a proposed investigation to determine the basic physical properties of magnesium oxychloride concrete. This information will supplement the nuclear properties established by Oak Ridge. Comments on the program will be submitted by Battelle the week of February 26th.

Heat Transfer Test Facilities

Because of the significant difference between the cost estimates prepared by the Reactor Division and by Atkinson-Jones, it has been decided to request lump sum bids from several contractors for the preparation of the test facilities. The necessary specifications and drawings have been prepared for discussion with the Contract Section. The latest estimate for the start of the test program is approximately July 1.

II. STATISTICAL AND GENERALGraphite Key Tests

This test program is being run to evaluate the relative strength of round vs. square keys and key ways. The results of the tests completed to date indicate that the round keys are much stronger than square keys, because of the lack of stress concentration inherent with the latter.

Control Rods

Preliminary analyses indicate that satisfactory deceleration of the control rod will probably be obtained using the proposed inverted thimble, which also serves as a pneumatic cylinder. The deceleration force is obtained by a piston attached to the upper end of the control rod and fits in the inverted thimble.

These studies are being continued.

Control Analyses

The preliminary studies indicate that it will be feasible to gas cool gadolinium control rods. These preliminary calculations should be completed by March 15, at which time some tentative conclusions will be reached.

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REF ID: A6617056
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Control Analyses (continued)

It has been determined that 11,000 balls of 3/8" diameter, for the 3-X System, will have the same effectiveness as a 3" round rod. The results of the preliminary analysis indicate that sufficient rapid control will be obtained by the falling balls to obviate the need for a quick acting supplementary control system.

Irradiation Tests of Rubber Samples

Eight synthetic samples and two samples of natural rubber have been subjected to 90 hours of exposure. Only the two natural rubber samples appear to be unaffected by exposure, whereas all of the synthetic samples have deteriorated to the point where they have lost all resilient properties and several have actually broken.

Heat Transfer Tests

Heater Tube. The General Engineering and Consulting Laboratory was visited February 7 and 8 with the intention of improving the progress on the procurement of the heater tube for the 100-G heat transfer test. The discussions included joint design, process tube brazing, bus design, end water connections and electrical connections, thermocouple and voltage probes, internal fluid, and test stand.

Recirculation Test

The present status of this test is as follows:

Drawings	80%
M & E Lists	95%
Equipment Requisition	100%
Material Requisition	75%
Construction	0%

Owing to a postponement of the scheduled February shutdown of "H" Area, the planned installation of certain of the test piping has been delayed. This does not represent any delay in the over-all test schedule.

The Production Test Request covering this work has been rewritten to redistribute the responsibilities shared by the "P", Technical, and Reactor Divisions.

Control Rod Alloys

Word was received from Battelle that they also had succeeded in preparing gadolinium-titanium alloys, by arc melting under a 99.92% argon atmosphere. Gadolinium oxide was used as a source of gadolinium. In one heat, it appeared that about 5% gadolinium had been alloyed with titanium, although the hardness of this heat (232 Vickers), which presumably contained 0.8% oxygen was less than the 320 Vickers hardness to be expected in titanium containing this much oxygen. Previously, experimental work by Remington indicated that only about 4% of GD could be dissolved in titanium, using Gd_2O_3 . Verification of the gadolinium content of Remington's alloys was received from Research Chemicals. These alloys contained 3.85% to 4.2% Gd.

Control Rod Alloys (continued)

In other experimental trials with titanium-boron alloys, it appeared that about 2% boron was the maximum amount that could be incorporated in titanium and still yield a workable alloy.

III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:	
Beginning of month	41
End of month	<u>42</u>
Net increase	1

SEPARATIONS DIVISION (D&C)

I. DESIGN

MJ-1 Production Plant

A project proposal was prepared and submitted to the Manufacturing Divisions covering all work authorized by the latest modification to Directive HW-99.

The Kellex narrative report on Main Production Plant, Stack and Mock-up for the month of February has not been received. The scheduled percentage completion of design as of the end of February is 38.0. The expected completion is 35.0%. All of the Engineering Flow Diagrams with the exception of one have been either approved or submitted to the Separations Committee for approval. The AEC has approved the scope drawings for the Mock-up Building in its new location in the West Area. Scope drawings covering the architectural, heating and ventilating for the 202-S Building have been submitted to the AEC for approval.

Approximately 300 scope and construction drawings have been received from The Kellex Corporation for approval by General Electric. Approximately 50 of these have been approved and are being distributed to the contractor. The rate at which Kellex has been submitting drawings for approval was satisfactory up to February 11. Between February 11 and February 25 the rate decreased. Kellex is aware of this condition and has taken steps to remove the internal bottlenecks and get back to the scheduled rate so far as possible. However, it should be pointed out that the rate of approvals by General Electric through the month of February was extremely low, and of the approximately 200 drawings scheduled for approval by the end of the month, 150 are still not approved.

Firm agreements have been reached with Kellex in regard to the Operating Galleries piping diagrams, and design is proceeding with the expectation that there will be little cause for any delay in these drawings.

Special equipment design, i.e., heat exchangers, towers, and concentrators, have been firmed up to Kellex except two vessels on which data and decisions from Technical Division were required. The data on one vessel have been received and will be transmitted to Kellex; the remaining data are expected shortly.

The total number of requisitions received as of February 24 is 102. Of this total, 69 have been forwarded to Procurement; the balance are being reviewed by General Electric or corrected by Kellex. Procurement Division has agreed to accept a bulk requisition for stainless steel plates to be allocated to specific vessel requisitions by size and thickness.

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MJ-1 Production Plant (continued)

This will enable the rolling of steel now held by Alleghany-Ludlum. Part of the pipe connector order on the Crane Company has been approved by the Atomic Energy Commission. All male ends and a portion of the female ends should now be on order. Of the 19 construction specifications being prepared by Kellex, 13 have been approved and issued. Specification HW-4302, "Plain and Reinforced Concrete," was recalled from the Atomic Energy Commission prior to receiving their approval, and has been issued.

Design schedules for outside auxiliary facilities being designed by General Electric have been brought up-to-date and are ready for formal issuance by the Separations Division. All of the remaining basic design information has been transmitted to Power & Mechanical Division with the exception of two items, the waste lines to the Tank Farm, 240-S, and the Laboratory Waste Disposal Facilities, 219-S. In connection with the latter, we have been requested to provide an estimate for two alternates to the Technical Divisions' Contact Engineer by February 27. It will be necessary to receive firm scope instructions from the Technical Division on 219-S as quickly as possible in order that this facility may be constructed on time, and in order that its construction will not interfere with outside utilities. Outside utilities scope work is approximately 92% complete and construction design is approximately 40% complete.

MJ-1 Waste Disposal Facilities

It was decided during February to remove the steam lines, water lines and permanent railroad from the lump sum contractor's scope of work for the 241-S Tank Farm, and to include this work in the Atkinson-Jones' contract. Invitations to bid are being prepared by the Contract Division.

The second preliminary estimate of the construction costs for installing the R. M. Line together with a summary, by tasks, of the basic field costs was completed. The total estimated cost was \$1,517,400 which was approximately \$31,700 more than the estimate of April, 1949. The increase was due to the availability of some additional information.

There is to be no further extension of the 1A classification, which includes the design modifications requiring immediate action that are necessary to make the R. M. Line operable, unless it should develop that the modifications can be incorporated in the line at no added expense and with no delay to installation.

Personnel from Schenectady were in Richland February 27 and 28 to discuss their revised cost estimate and to investigate the possibility of doing some of the assembly and test work on the R. M. Line equipment at Hanford.

Authorization was received from the Atomic Energy Commission to eliminate the personnel barrier in the operating or Zone 2 side of the R. M. Line. This was the barrier which separated the 234 and 235 portions of the building. The section of the wall in Zone 3 area is to be retained.

The justification letter for Construction Completion of the Mechanical Development Shop was approved by the Atomic Energy Commission, but no actual work will be done nor orders placed for the equipment until the current review of MJ-2 costs indicates that such expense is permissible.

An investigation was made of the water chiller system, Phase I work. Operating

MJ-1 Waste Disposal Facilities (cont.)

experience since the building start-up has shown that the original specified quantity of chilled water flow can be substantially reduced. This factor, together with the evaluation of the equipment, has resulted in a decision to install a new tube bundle in the existing chilled water system. A requisition has been issued.

A work order was issued to the Instrument Division to install the manual synchronizing controls on blower EM-3 and EM-4.

A work order issued in April, 1949, for disconnecting and disassembling the temporary construction electric feeders and substation near the 234-5 Building was cancelled.

The work to be done in H. I. Room 161 has been outlined and submitted to the Estimating and Control Section of the Project Engineering Division in order to obtain an estimate before the work order is issued.

MJ-3

GE & CL design on the electrolytic cell is under way and the first report is expected by the end of this month.

Scope approval has been obtained for the Cell 5 installation and is essentially ready for approval on Cell TA installation. Flow sheet and layout work on Cell TB is proceeding on a relatively firm basis, based on information from the Fansteel Metallurgical Corporation on the feasibility of vessel and equipment fabrication.

Sampling device mock-ups are being fabricated to test methods developed by an initial study. The design of sampling devices and carriers will proceed on the basis of the results of these tests. Detailed design of equipment and jumpers is behind schedule one or two weeks on Cell 5 equipment, principally because of a shortage of drafting manpower. Drawings have required nearly twice the time originally estimated for drafting.

Scope of temporary construction facilities has been approved and design work on these facilities is nearly complete.

Scope design of the 222-T Laboratory addition has been initiated on the basis of sketches received from the Technical Divisions. The new laboratory addition will probably occupy less than 3,000 square feet in area. Preliminary schedules for the scope and detailed design of this building have been prepared.

Detailed design of the 272-E mock-up facilities is under way and a preliminary schedule has been issued.

The scope print covering mechanical design work on the 291-T fan installation has been prepared and is awaiting approval.

A Material and Equipment List has been prepared for 221-T and 272-E but not yet issued. Material and Equipment Lists are still to be received on 291-T and 222-T.

The design of laboratory equipment is proceeding according to schedule.

MJ-4

As previously reported, a Design Instruction, including an Engineers' Flow Sketch has been prepared covering removal of waste from one cascade of the 241-U Tank Farm. This is to serve as a basis for a firm design proposal to be submitted by an architect-engineer. Four work orders have been written to obtain information necessary to design. These include:

1. Temperature measurements in both used and unused underground pipe lines during cold weather.
2. Investigation into light intensity required for viewing by periscope of the inside of a 241 waste tank.
3. Pressure testing of presently unused underground waste lines in the 200 Areas.
4. Radiation intensity measurements within specific 241 waste tanks.

Cost estimates were completed on the two possible waste transportation systems, pipe line vs. tank cars, and the questions resolved in favor of pipe line transportation.

The Chemical Flow Sheet was received from the Technical Divisions on February 16. Material Balance calculations have been completed and issued for approval by the Process Working Committee.

An Engineers' Flow Sketch and Process Description covering feed concentration, extraction, waste concentration and nitric acid recovery, product concentration, and organic treatment is approximately 90% complete. Layout studies for the 221 Canyon are also estimated at 90% complete. Design of special equipment such as fractionating towers, condensers, etc., has been started.

MJ-5

Authorization to proceed with Preliminary Design and Preparation of a Project Proposal has been issued.

Organization of the MJ-5 group is being built up through a services contract with Fluor Corporation. Preliminary work on layout and flow sketches has been started.

Redox Analytical and Plant Assistance Laboratory

The architect-engineer reports design approximately 90% complete as of February 28, 1950.

[REDACTED]

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HW-17056

Redox Analytical and Plant Assistance Laboratory (continued)

) Architectural and foundation drawings with the exception of foundation details on the Multicurie Wing have been issued for construction. Structural drawings except slab details and second-floor structure have been issued for con-

MJ-3

All the Work Orders for 221-T Canyon clean-up have been issued and work is under way.

About 20% of the Work Orders for temporary construction have been issued; work has not yet started.

Requisitions for designed equipment for 272-E are all issued. Bulk orders have been issued for the materials required for 221-T jumper fabrication.

Redox Analytical and Plant Assistance Laboratory

Construction work on this facility was released on February 13, 1950. Work to date has consisted of construction of temporary facilities and utilities and grading.

III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:	
Beginning of month	73
End of month	<u>84</u>
Net increase	11

POWER AND MECHANICAL DIVISION (D&C)

I. SUMMARY

With fair normal weather the latter half of February, construction progress on projects both inside and outside the barricade has been satisfactory. Such cannot be said of progress during the early part of February because of sub-zero temperatures.

Due to ice conditions on the Yakima River above the two highway bridges, considerable anxiety on the part of all concerned was relieved with the passing of heavy ice February 20 and 21. Blasting with small dynamite charges previous to the heavy ice flow, particularly on Sunday, February 19, kept the channel clear for the heavy movement of ice the two following days. This, no doubt, was a contributing factor which possibly averted a serious ice jam above the bridges. Construction work on the Yakima River railroad bridge was resumed the latter part of February, with steel trusses now on the site, with one span in place as of March 1. Steel work for the trestle over Highway 410 was completed February 20. Physical completion of the total NP-UP Railroad Connection, Project C-185, is estimated at 65 per cent.

The work load in the Drafting Section from revised drawing schedules indicates an average of 115 draftsmen required for the months of March and April. The contract section has been negotiating with Chas. T. Main, Inc., of Boston, Massachusetts, to furnish qualified draftsmen to meet the schedule. Contract G-285 is now in the process of final negotiations.

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SUMMARY (continued)

In the general engineering section, an analysis of time spent by the 27 engineers shows that 48 per cent of the time was charged against other divisions and 52 per cent of the time was spent on Power and Mechanical Division projects.

Since the speed-up program on DR was initiated during the first part of February, the contractor assigned a second shift starting February 20. A small third shift of 15 men was initiated February 28 to handle form stripping, clean-up, concrete curing, and maintenance. Approximately 1800 cubic yards of concrete have been poured to date on building foundations, 183-DR and 190-DR. It is estimated that approximately 2-1/2 to 3 per cent of the physical facilities are complete.

II. STATISTICAL AND GENERAL

Briefly listed in the following is the status of the active construction projects:

C-185, Railroad Connection South of Richland: This project is approximately 65 per cent complete. Work on the Yakima River bridge resumed on February 15 and has continued satisfactorily to the end of the month.

C-288-A, B, C, D - Richland Village Improvements

Existing Business District (C-288-A) is 72 per cent complete.

Light Industrial Area (C-288-B) is complete with the exception of small items.

New Central Commercial Area (C-288-C) - final inspection was held in February.

Neighborhood Shopping Areas (C-288-D) - Duportail and Wright portion has been accepted as complete. The entire project is approximately 80 per cent complete.

C-234, Marcus Whitman Grade School: Work on paving is essentially complete.

C-233, Spalding Elementary School: All paving work on this project complete with the exception of Laykold application on the tennis courts.

C-232, Carmichael Junior High School: Paving work is 35 per cent complete to date.

C-328, Lee Boulevard: Completed and finally accepted.

C-203, Sewage Disposal Plant: Paving work is 10 per cent complete.

C-342, DR Water Works: Design progress as of February 27 is 73-1/2 per cent. Design work on the gas system, Building 115, is scheduled for completion around May 1.

Field construction work is moving along in routine order. The 230 KV line relocation was completed February 7 and the line was energized February 9, as scheduled. Approximately 270,000 cubic yards of earth have been removed, representing over 90 per cent of the excavation required for the main structures.

DECLASSIFIEDC-342, DR Water Works (continued)

Temporary construction is now 80 per cent complete.

The first concrete was poured on the job February 9 from the Operations plant north of White Bluffs. The central mix plant between 200 East and 200 West areas was placed in operation February 20. The yardage poured to date on 183-DR foundations is approximately 1800 cubic yards.

The average daily force for Atkinson-Jones on DR for February is 732 manual and 420 non-manual employees.

The temporary construction fence for 100-DR required by the H. I. and Security Divisions will be erected during the month of March.

C-276, Over-all Plant Telephone System: All work now authorized (Part I) on this project was completed February 20 and final inspection made February 28. A few minor exceptions were noted and corrections will be made.

Hanford Works Laboratories:

Study GET-14, Radiochemistry Building: The cost estimates follow generally the scope plans prepared by J. Gordon Turnbull, Inc., and are essentially complete. The project proposal is scheduled for submission March 20.

GET-15, Radiometallurgy Building: Revised scope drawings sufficient for estimating purposes have been prepared. Estimates are due March 20.

GET-16, Plot Plan and Utilities: Tentative arrangement plan has been prepared and submitted to the Technical Divisions for preliminary approval prior to preparation of estimates.

MC-964, Records Depository: Awaiting approval of project proposal by the Atomic Energy Commission.

C-204-B, Additions to Kadlec Hospital and Medical Arts Building: Study has been completed in accordance with the last information furnished by the Medical Division and forwarded to W. D. Norwood. It is probable that part of this work may be altered by the Medical Division.

The work in connection with the Medical Arts Building has been held up pending information from Medical.

C-289, Additional Laundry Facilities, 200 West Area: All design information necessary for preparation of bid invitations has been submitted to the Contract Section.

C-352, Jadwin Avenue Relocation: Cost estimates for construction are being prepared based on final plans.

C-353, Richland Water Supply: The Contract Section has received approval from the Atomic Energy Commission to negotiate with Alvord, Burdick & Howson as architect-engineer for this work.

Completion reports were written on Projects C-241, C-292, C-299, and C-314 and Study AEC-21 during the month of February.

DECLASSIFIEDIII. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	196
End of month	<u>205</u>
Net increase	9

CONSTRUCTION SERVICES DIVISION (D&C)I. SUMMARY - NoneII. STATISTICAL AND GENERALNorth Richland Construction Camp

	<u>Beginning of Month</u>	<u>End of Month</u>	<u>Net Change</u>
<u>Camp Population</u>	2397	2601	+ 204
(Barracks 320)			
(Trailers 1709)			
(Houses -572)			

Barracks in Use

9 wings, one-story male barracks
2 wings, one-story female barracks

Trailer Lots

Occupied - 603

Houses

Of the 201 houses available in North Richland Camp, 31 were vacant at the end of the month. Sixteen houses were assigned during the month and 14 vacated.

Maintenance

The construction contractor's maintenance force at the end of the month totaled 50 employees.

Work Order Control

Number brought forward 1-28-50	36
Issued in February	103
Completed in February	85
Voided in February	5
Balance carried forward 1-24-50 (Fri.)	49

North Richland Construction Camp (continued)

Steam Generating Plant

The following is a resume of the operation of the steam generating plant from January 28, 1950 through February 24, 1950, inclusive:

Steam generated, M Pounds	23,522
Oil consumed, gallons	16,270
Coal consumed, tons	1,501
Boiler efficiency, average percent	77.59%
Steam Cost per M Pounds	.885

Commercial Facilities

There were 18 commercial facilities operating at the close of the month.

From the information available at this time the trend of business is noticeably improved.

Community Activities

During the month Community activities increased. There were 48 church meetings and 23 other gatherings held in the community during the month.

Camp Columbia

The custody of Camp Columbia and the operation of the necessary utilities were assumed by the North Richland Realty Section on February 1. At the present time there is a resident caretaker who will remain until the camp is disposed of.

Two employees of the U. S. Engineers are presently housed at the camp on a temporary basis.

Office Services

A survey of anticipated requirements of office furniture for D&C Divisions and Subcontractors was conducted and certain items were obtained from Pasco Warehouse. This equipment was to be disposed of and will help to supply future needs.

Office space has been reserved in Building 87 for the Power and Mechanical Division. The space is to be utilized by draftsmen.

Services performed during the month by this section included the following:

Ditto Masters Processed	3,241	Copies	56,098
Stencils Processed	3,009	Copies	132,142
Mail Handled (pieces)	172,821		
Mail Registered (pieces)	150		
Teletypes Sent and Received	482		
Telegrams Sent and Received	318		
Orders issued for Stationery	84		
Stationery issued (requests)	1,262		

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Office Services (continued)

Phone Installations requested	26
Phone Moves requested	74
Office Furniture Moved (pieces)	224
P. I. T. Processed	12
Special Messenger Runs	148
Office Machines Delivered Repair Shop	10
Service Calls	620
Work Orders Issued	14
Requisitions Approved	9
Reports Prepared	10

Security Administration

A summary of activities is as follows:

Visitor passes issued	169
Badge number changes	215
Lost Badges	6
New Hires (Contractor)	618
Terminations (Contractors)	127
Number of Subcontractors and Vendor Employees as of 2-24-50	2,160
"FP" Clearance requested	28
Received this month	73
"Q" Clearances requested	125
Received this month	170
"P" Clearances requested	19
Reinstate - Request-	426
Visitor Clearances Requested	20
Total Clearances Requested	192
Total Clearances Received	243

<u>Area Badges Authorized:</u>	<u>A</u>	<u>IN</u> <u>V.O.D.</u>	<u>B</u>	<u>T</u>	<u>A</u>	<u>OUT</u> <u>V.O.D.</u>	<u>B</u>
100 D Operation	0	2	0	0	0	1	0
100 F Operation	0	0	0	5	0	1	0
200 E Operation	0	2	0	4	0	0	0
200 T Operation	0	3	0	5	0	0	0
100 DR Water Plant	386	0	0	4	47	0	0
Redox (Construction)	214	0	3	0	0	0	0

Effective Friday, February 24, 1950, the Administration Area of the 3000 Area was established as a "controlled" area during the night shifts, Saturday, Sunday and holidays.

Major Construction Equipment

Equipment assignment as of February 28:

Atkinson and Jones	743 pieces
Design and Construction Div.	108 pieces

Safety Report

<u>Construction Injuries</u>	<u>C.P.F.F. Contractors</u>	<u>Lump Sum Subcontractors</u>
Major Injuries	1	0
Sub-Major Injuries	0	0
Minor Injuries	46	0

No motor vehicle accidents were reported during the month. A fire seriously damaged the trailer of Dale Clender located in the Trailer Camp. Fire damage to the trailer was estimated at \$300. and personal property loss at \$500.

Labor Relations

1. No work stoppages occurred during the month.
2. Concerted effort was made during the period to negotiate an addendum to the Hanford Works Agreement to cover Steamfitters and Plumbers on the project. Negotiations are still under way without an agreement having been reached on the addendum to date.

Inspection Section

The Inspection Section has continued to perform routine concrete test work, welder qualifications, and welding and riveting inspection in connection with the fabrication and erection of structural steel for railroad crossing at Highway #410 and the Yakima River.

Specimens of concrete for test started to come into the laboratory February 13 from 100 DR.

III ORGANIZATION AND PERSONNEL

Number of employees on payroll:	
Beginning of Month	108
End of Month	<u>115</u>
Net Increase	7

CONTRACT DIVISION (D&C)

I SUMMARY

Negotiations with Hanley & Co., Subcontract No. 37 under G-133 have resulted in full agreement on complete rescoping of work, cost and fee for MJ-1. Modification No. 1 covering above was forwarded to the Commission for formal approval on February 23, 1950.

The scope of work for Newbery-Neon Electric Co., Subcontract No. 22 under G-133 is in the process of being completely restated in Modification No. 10. All previous modifications are being incorporated in this modification and the revised

CONTRACT DIVISION (D & C) Continued

scope classified by the following groups: (1) Work Completed; (2) Major Jobs Now in Process; (3) Minor Jobs Now in Process.

Subcontract G-150-A, J. Gordon Turnbull, Inc.--Graham, Anderson, Probst & White, Inc., covering seven (7) A-E items pending since early 1948, has been agreed upon by all parties concerned and formally approved by the Commission.

II. STATISTICAL AND GENERAL

Twenty-three contract items were completed during the month. Fifty-one contract items remained open at the end of the month.

III. ORGANIZATION AND PERSONNEL

Number of employees on payroll:

Beginning of month	23
End of month	<u>26</u>
Net increase	3

PROJECT & RELATED PERSONNEL - FEBRUARY 1950

	<u>1-31-50</u>	<u>2-28-50</u>
<u>GOVERNMENT EMPLOYEES</u>		
Civilian Personnel - Atomic Energy Comm.	341	339
Civilian Personnel - G. A. O.	8	8
Total	349	347
<u>RICHLAND VILLAGE PERSONNEL</u>		
Commercial Facilities (includes No. Richland)	1011	1021
Organizations, Clubs. Etc.,	77	70
Schools	389	387
Churches	26	26
Total	1503	1504
<u>CONSTRUCTION SUB-CONTRACTORS</u>		
Atkinson & Jones	1000	1660
Newberry Neon	96	137
Urban Smyth, Warren Co.,	12	15
Hanley & Co.,	-	4
Kellex Corp.,	397	403
J. A. Terteling & Son	40	52
J. A. Troxell	6	12
Charles T. Main Inc.,	103	135
No. Electric Mfg. Co.,	2	2
Graham Anderson, Probst & White Inc., &		
J. Gordon Turnbull	23	22
McCorkle Const. Co.,	39	24
Curtis Sand & Gravel	10	12
Fisher - Pudget Sound Painter	-	3
Bergman & Lampson	26	27
Consolidated Western Steel	15	17
Total	1769	2525
General Electric Personnel	7431	7464
Grand Total	11052	11837