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MONTHLY REPORT

FUELS PREPARATION DEPARTMENT

FOR

JUNE, 1958

Compiled by

Fuels Preparation Department

July 17, 1958

Richland, Washington

HANFORD

69606

Classification cancelled for the
classification of the report

by J. P. D.
by m. l. w.
Date 5/15/75

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Work performed under contract No. W-31-109-Eng-52 between the Atomic Energy
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J. E. Travis		acc. - Ha		

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FUELS PREPARATION DEPARTMENT
MONTHLY REPORT SUMMARY FOR
JUNE, 1958

MANUFACTURING OPERATION

During the month the manufacturing plant was operated on a two-shift basis with four canning lines on each shift. Five hundred eighty-two (582) tons of acceptable uranium fuel elements were produced which was 112% of forecasted production.

The manufacturing yield of 86.7% for eight inch I & E production represents a record high for the fifth consecutive month. The yield for this product in June, 1957 was 22%. This twelve month improvement has resulted mainly from increased experience and control, and from improved technology.

At month end there was a 1.5 month supply of bare uranium cores in storage. All types of cores were in adequate supply throughout the month. A 1.5 month supply of finished material was on hand in the combined 100-300 storage areas.

For the first six months of CY-1958 the plant operating efficiency has been 93.5% as compared to 89.5% for CY-1957.

The bonding layer integrity of all acceptable eight-inch I & E fuel elements was upgraded this month by establishing the total count bond test standard. Now, in addition to count rate testing, all natural as well as enriched I & E elements receive this additional test designed to screen out clusters of small porosity.

Two autoclave failures occurred in June on natural I & E elements compared to four for May. Both failures resulted from small pinholes in the external welds which extended into non-wet areas in the cap braze region.

Significant progress was made toward improving cap and can wetting through cap vibration, cap preheat, and canning cycle changes.

Important cost reductions have resulted from the AlSi recovery program. Virgin AlSi consumption has been reduced by more than 60%.

ENGINEERING OPERATION

An improved rupture trend was evident during June. This was attributed to reductions in reactor power levels, the discharge of M-388 clad solid fuel elements from rupture prone areas, and the irradiation of enriched I & E elements on corrosion limits. A vigorous program to reduce corrosion failures was carried out. Some of the steps taken included the redimensioning

of I & E elements to obtain optimum temperature and flow balance; studies to provide for the redesign of I & E truline contours to insure better mating; use of water mix pieces; the application of total count bond test criteria in the testing of I & E elements and the preparation of bridge support designs to prevent fuel element misalignment.

One thousand cast washers and 1000 "C" size cast I & E elements have been received from the American Bearing Company. Evaluations underway indicate generally satisfactory characteristics. Samples were received from the Hunter Douglas Aluminum Corporation which represented the extremes in process conditions tried during recent "cold" extrusion runs. Little difference in metallurgical structure or quality was indicated in the various samples. This indicates that minor variations in extrusion conditions will not adversely affect metal quality. The beta quenched grain structure appears comparable to normal Fernald production uranium.

The potential of aluminum externally plated with nickel is being investigated for fuel element cladding material as a means for controlling "hot spot" corrosion and for other reactor applications. Early reactor tests at HAPO and experiments at ANL indicate favorable possibilities.

A complete process flow diagram for the proposed 306 Fuel Element Pilot Plant conversion was prepared. Detailed design will be started during July. All other design, project and construction work is on schedule and within costs.

FINANCIAL OPERATION

The last meeting of ten weekly sessions scheduled with Department management on the subject "An Introduction to Finance" was held on June 26. It is planned that another series of ten sessions will be held in the fall.

Should the June Consumer Price Index remain at the May level, a .59% increase in the non-exempt salary adder will become effective in July. Exempt salaries projected through CY-1958 are 26.3% above midpoint of the range; with a 2% increase in the structure, this percentage is lowered to 12.6.

Plans were completed for the Product Cost Operation to maintain inventory records for process materials effective July 1; as a result, Manufacturing Operation is relieved of taking monthly physical inventories and of all inventory reporting. Product Cost also assumed responsibility for issuance of the report to AEC covering forecast of ferrous and other special material requirements previously issued by Maintenance & Power.

MAINTENANCE & POWER OPERATION

Cost reduction savings realized were as follows: Second quarter CY-1958, \$29,505, 128% of budget; year-to-date, \$50,786, 58% of budget.

An appropriation request for an additional fly ash separator at the power house was approved. The addition of this separator will permit passing all off-gas from the boilers through separators to reduce the fly ash emission to a minimum.

The responsibility for representing FPD in the proposed relocation of the Richland-HAPO security barricade was assigned to the Plant Engineering Operation.

The use of Trimethoxyboroxine on the sludge barrel fires on May 22 and June 9 at the 306 Building was very effective. The fires were extinguished rapidly, with very slight loss of the barrel contents. This has proved to be the most effective extinguishing agent for pyrophoric metal fires we have found; however, the effect of Boron contamination of the extinguished material must be evaluated to determine if this material will continue to be used.

EMPLOYEE RELATIONS OPERATION

A salary plan survey questionnaire has been developed for use early in July. This survey is contemplated to determine if and where improvements have been made in the administration of the salary plan.

Seven grievances were processed at Step I during June. Of the seven grievances three involved jurisdiction, two concerned hours of work, one each was on overtime and the violation of the lock and tag procedure. An arbitration award was issued on June 16 in the James case. An arbitration case has been scheduled for August 13 in Richland.

A comprehensive analysis of absenteeism experience for CY-1957 was completed and reported to management.

As of month end the Department had completed 668 days without a disabling injury. The medical frequency rate decreased from 4.23 in May to 4.19 in June. There were no serious accidents or fires during the month.

PERSONNEL STATISTICS

Number of employees May 31, 1958 762
Number of employees June 30, 1958 752

OPERATION

	<u>EXEMPT</u>	<u>NON-EXEMPT</u>	<u>TOTAL</u>
General	1	1	2
Manufacturing	55	284	339
Engineering	51	26	77
Financial	16	21	37
Maintenance & Power	39	234	273
Employee Relations	14	10	24
TOTAL	176	576	752

L. L. German
GENERAL MANAGER
FUELS PREPARATION DEPARTMENT

LLGerman/jak

MANUFACTURING OPERATION

June, 1958

I. CURRENT OPERATIONSA. Production and Productivity1. Statistics

	NORMAL				ENRICHED			
	8"	8" I & E			6"	6" I & E		
	Solid	C	K	O	Solid	C	O	Total
<u>Current Month's Production</u>								
Acceptable Fuel Elements Produced (Tons)	334	140	56	4	16	32		582
As % of Forecast Production	111		114		80	128		112
As % of Past 3 Month's Production	101		87		133	86		96
Average								
As % of Past 12 Month's Production	76		187		145	200		99
Average								
As % of June 1958 Goal(500 MWD/Ton)	121		100		37			86
As % of June 1958 Goal(750 MWD/Ton)	334		67		64			129
% of Forecast Achieved - Last Fiscal Quarter	112		88		130	80		103
% of Forecast Achieved - Last 4 Fiscal Quarters	102		87		94	62		96
<u>Operating Efficiency</u>								
Current Month (%)								93
Forecast (%)								91
Previous Month (%)								94
<u>Manufacturing Yield</u>								
Current Month (%)	89		87		74	81		
Forecast (%)	78		70		78	70		
Previous Month (%)	90		86		88	82		
Bare Uranium in Storage (Tons)								779
Finished Product in Storage (Tons)								704
Special Products Finished (Pieces) Bismuth								846
Uranium Utilization (%)								95.

2. Activitiesa. Production

During the month the manufacturing plant was operated on a two-shift basis with four canning lines on each shift. Five hundred eighty-two (582) tons of acceptable uranium fuel elements were produced which was 112 percent of

a. Production - continued

the five hundred twenty (520) tons forecast in HW-55761 RD. Variance from forecast resulted primarily from reduction of the work-in-process inventory and from above forecast yields and efficiency.

b. Yield Control

	<u>May Yield</u>	<u>June Yield</u>
8" I & E	86.3%	86.7%
8" Solid	90.1%	89.4%
6" I & E Enriched	81.6%	81.1%
6" Solid Enriched	87.6%	73.8%

The yield of 86.7 percent for eight-inch I & E elements represents a record yield for the fifth consecutive month. The yield for this product a year ago in June, 1957 was 22 percent. This twelve-month improvement has resulted mainly from increased experience and control and from improved technology. Reprocessing of minor surface imperfections has aided, but to a lesser degree.

The yields for both types of enriched products dropped somewhat from May's high levels primarily because of slightly greater core porosity than with natural cores. Engineering is working with the National Lead Company to determine if core fabrication is responsible for this apparent difference. At Hanford the total count Bond Test standard was used in testing the I & E enriched elements and a new and more sensitive "memory" circuit was installed on the No. 2 solid bond tester for the solid enriched elements. Both methods appeared capable of screening out pieces with unacceptable braze porosity, with the memory circuit exhibiting the greater promise.

All products were affected by a slightly higher incidence of Braze Layer Contamination this month. Although the vast bulk of such imperfections is readily reprocessible by refacing and rewelding, a thorough study is being made to detect and eliminate the difficulty at the source. Both the Canning and Finishing process appear to be influential.

c. Other Activities

During the last week in June the special canning crew was engaging in processing bismuth target elements by the cold canning method. Three hundred (300) pieces will be processed monthly. Since usage of this material is rather limited, three thousand (3,000) pieces are expected to supply reactor needs for about eighteen (18) months.

At month end there was a 1.5 month supply totaling seven hundred seventy-nine (779) tons of bare uranium cores in storage. All types of cores were in adequate supply throughout the month. This larger inventory reflects the extra 300 tons allotted by the Atomic Energy Commission in March 1958. Based on the receipts, as established at the recent Feed Materials Conference, the bare inventory will be reduced gradually to a one month supply by December of this year.

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c. Other Activities - continued

Finished product inventories remained relatively constant. A 1.5 month supply - 704 tons - of finished material was on hand in the combined 100-300 storage areas. With the accelerated I & E charging program in the old reactors, this inventory will be reduced substantially within the next few months.

In June the projected annual turnover rate of essential material was 2.28.

The following pieces were processed through the fuel recovery operation:

	<u>Pieces</u>
Solid 8"	18,985
I & E "C" 8"	10,370
I & E "K" 8"	1,444
I & E "O" 8"	543
Solid 4"	<u>332</u>
Total	31,674

Two shipments totaling 49,313 pounds of natural and 1,423 pounds of enriched uranium scrap were sent to the National Lead Company.

B. Plant Problems and Incidents1. General

One Manufacturing goal has been to make the whole plant a large single-purpose machine in which the canning cycle sets the production pace. This has called for considerable attention to improving work place layouts, combining of duties, and rearranging process steps. In all this activity careful consideration has been given to balancing the production lines to achieve maximum utilization of both men and machines - a never ending activity since the process is improved continually through process analysis, and machine throughput is increased frequently through tooling changes.

Today almost every operation and inspection in the manufacturing process is paced by machine throughput. To accomplish this, considerable attention has been given to mechanization. Many special materials handling conveyors have been developed to keep production flowing through the plant. With one exception the fuel elements are conveyORIZED from the initial components preparation operations to the final inspection stage. That one exception is not mechanized for good reason because it provides maximum flexibility, which contributes to better utilization of men and machines.

While a continuous flow process has many advantages in securing maximum utilization factors, the plant operating efficiency is dependent on machine reliability. If one machine breaks down the entire plant must shut down, unless sufficient flexibility in the process has been provided. The problem has been attacked from both directions. Much work has been done on both

1. General - continued

machine reliability and plant flexibility. In many cases the reliability of machines has been improved by design modifications. Also there has been much activity in the areas of preventive maintenance and spare parts programs. These are continuing programs which have paid big dividends in keeping the plant running continuously.

Coupled with these programs are the untiring efforts of production, maintenance, and engineering people working as a team to make the plant run better and faster than ever before. The effectiveness of these activities is attested by the plant operating efficiency which has been 93.5 percent for the first six months of CY 1958, compared to 89.5 percent for CY 1957.

2. Non-Destructive Testing

The Bonding Layer Integrity of all acceptable eight-inch I & E fuel elements was up-graded this month by establishing the total count Bond Test standard. Now, in addition to count rate testing, all natural as well as enriched I & E elements receive this additional test designed to screen out clusters of small porosity. Also, a new "memory" circuit was used for testing enriched solid elements. This test has proven to be a more severe bond test than the others and offers certain operational technological and maintenance advantages. Data on circuit behavior will aid in utilizing the memory circuit principle on the new production testers which will be installed later this summer.

3. Autoclave Failures

Two autoclave failures occurred in June on natural I & E elements compared to four in May. Both failures resulted from small pinholes in the external welds which extended into non-wet areas in the cap braze region. The two failures were in reprocess lots and had been canned prior to the introduction in early June of a program to improve cap wetting, which is discussed below.

An additional inspection was continued between the etching and autoclaving operations to screen out weld pinholes which are not readily discernible at Weld Inspection. Metallographic examination of small pinholes found at this new station has shown them to be predominantly a surface phenomenon, although one was found to extend deeper into the braze.

4. Cap and Can Wetting

Significant progress was made this month toward improving cap and can wetting. The use of a modification of the slow insertion canning cycle developed with solid elements has all but eliminated non-wet cans on C-type I & E elements. Previously it was feared that the can wall and tube wall would be eroded excessively by this change, but through care and skill and the use of lower canning temperatures the residual aluminum thicknesses have been preserved. An improvement in the assembly rejection rate was achieved since the new cycle gives the operators additional time for assembly and for skimming the molten baths. The slow insertion canning cycle has been adopted now for all I & E product types.

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4. Cap and Can Wetting - continued

Improvements in I & E cap wetting were noted by increasing the cap preheat time by three seconds and by modifying the cap vibration period. Also a test run was made with 1400 AlSi-clad boss-type I & E caps. Preliminary results indicate that superior bonding is possible with this component design. The cladding made the assembly easier which permitted a reduction in the canning temperature with an attendant increase in the residual aluminum thickness of about three mils. The boss-type feature of the cap design reduced any tendency toward cap cocking or floating.

A thorough analysis is being made of all results of this test to determine if the significantly higher cost of AlSi clad I & E caps can be justified. Other design changes and cycle revisions are under study to see if equal or better results can be achieved at less cost. The following approaches are being evaluated:

a. Cap Machining

A light machining cut has been made on the outside diameter of the cap well on about 5,000 I & E caps to remove surface oxides and facilitate cleaning. These will be canned in July by the standard process.

b. Cap Cleaning

De-oxidizing agents such as Aluminux are being evaluated as a possible improvement over the Diversey etch in the cap and can cleaning process.

c. Cap Abrading

Various abrading techniques prior to or during cap assembly are being evaluated. Care must be taken here to prevent spire damage.

5. Cap and Can Machine

On June 11, 1958 a rail was broken on the number 2 cap and can machine when an I & E cap basket came down on a partition of the machine. Investigation and correction of the basic cause for the machine's malfunction are under way.

6. Magnetic Traps

Incidence of iron particles on aluminum jackets of fuel elements will be reduced by the recent installation of magnetic traps. These magnetic traps have been installed on inlet and recirculating lines of the sleeve cleaning machines and on recirculating lines of the cap and can cleaning machines. A small amount of sludge is collected on each trap. About ten (10) percent of the sludge is iron particles, which would tend to deposit on aluminum jackets of fuel elements if not removed from the cleaning solutions.

C. Operating Plans

1. Bare Uranium Quality

Bare uranium quality remained at the same level as during the previous five-month period. Less than one (1) percent of the cores were rejected for seams and striations. The porosity rate of canned pieces was less than two (2) percent.

2. Recovery of AlSi

Important cost reductions have resulted from the AlSi recovery program. By tightening elemental silicon purchase specifications, by recovering AlSi at a higher temperature, by improving skimming technique, and by using a flux in the recovery process the Manufacturing Operation has been able to improve the quality of recovered AlSi. As the result of these changes, virgin AlSi consumption has been reduced by more than sixty (60) percent.

3. Aluminum Components Storage

Aluminum components are being moved from the 3722-A Warehouse to the 2101 Building in 200 East Area. When a new storage building with adequate fire protection is completed in the 303 Area, the components will be returned from 200 East Area.

4. SS Accountability

AEC approval was granted, effective June 1, 1958, to eliminate the reporting of very minor discrepancies in the lot balance figures of SS materials. This change in accountability procedure is expected to result in significant savings in the time and effort required to reconcile actual or suspected discrepancies of a minor nature.

5. Horizontal Welding Machine

The prototypic horizontal welding machine has been used on both shifts during June to give production and quality experience. Although a temporary increase in welding defects occurred at first, the yield capabilities of the horizontal welding machine have improved steadily. As the result of this production test, manufacturing people will be trained and ready to use the production models which will be installed this summer.

6. Hanford Test Reactor

Reactivity values obtained on fuel element cores were normal and showed no significant trends regarding the isotopic ratio.

Special tests included reactivity measurements of recovered poison pieces, development work on the Sub-Critical Monitor, and measurement of aluminum-boron carbide splines. All activities met nuclear safety specifications.

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7. "O" Size 8-Inch I & E Fuel Elements

Initial canning runs of the new "O" size I & E fuel elements were made in the 306 Pilot Plant and in the 313 Building. Production of about 100 tons is scheduled for early in July. The program for charging the old reactors is expected to proceed without delay. This product will be processed in increasing amounts until a monthly production rate of about 175 tons is reached.

D. Employee Relations

On June 6 a serious accident occurred when a two-ton fork lift truck tipped onto its side. The driver received minor medical treatment injuries. Damage to the vehicle was negligible. While backing in a sharp turn the two right wheels ran onto a raised sidewalk causing the truck to turn over.

All fork lift truck drivers have been re-instructed in the hazards of driving the vehicles. In addition, a training and testing course will be provided.

Members of the Operation were treated for 24 medical treatment injuries for a frequency of 4.56.

The frequency of exposures greater than 200 mrad per two-week badge period was 0.0. The frequency of exposures from 100-200 mrad per two-week badge period was 8.5.

II. PERSONNEL MATTERS

A. Reduction of Force

Reactor performance of the improved I & E fuel elements has warranted an increase in irradiation concentration. This increase in concentration has resulted in a significant reduction in the amount of fuel required by the reactors. Consequently the Manufacturing Operation expects to meet future production commitments with an eight canning line operation instead of a ten canning line operation. This cutback in production requirements resulted in an excess of production workers and it was necessary to reduce the force by 10 metal handlers, effective June 27, 1958.

B. Visits and Visitors

Messrs. Floyd Bond and Marvin Bloomsburg of the E. I. duPont Company visited the Manufacturing Operation to study the lead-dip process for canning fuel elements.

R. E. Daling attended the National Materials Handling Exposition in Cleveland, Ohio on June 9-10, 1958.

B. R. Black and F. Hunter attended the National Convention of the American Institute of Industrial Engineers in Los Angeles, California on June 11-13, 1958.

W. E. Stavig and G. W. Johnson attended the Regional ACS Convention in Portland, Oregon on June 16-17, 1958.

C. Reports of Invention

Members of the Operation 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 June 1958.

D. Meetings

Members of the Operation attended 24 staff meetings, 20 safety and security meetings and 9 informational meetings.

E. Significant Reports Issued

1. Routine

<u>Number</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
HW-56224	Monthly Report, Quality Control Operation, Fuels Preparation Department, May 1958	KV Stave	6/2/58
HW-56303RD	Production Schedule, FPD, Fiscal Year 1959	HE Berg	6/6/58
HW-56346	Production Report, FPD-Manufacturing, Month Ending March 31, 1958	HE Berg	6/11/58
HW-56511	Uranium Quality Control Analytical Results	GB Hansen	6/26/58
HW-56555	General Analytical Control Program I	GB Hansen	6/27/58

2. Non-Routine

HW-56271	SS Material Request No. 26	HE Berg	6/4/58
HW-56278RD	Production Schedule, FPD, July through December 1957	HP Kraemer	6/6/58

W M Mathis
Manager-Manufacturing

WM MATHIS:RIB:rhs

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YIELD STATISTICS - 8" ONLY

1958

S. A. BEARD

ENGINEERING OPERATION
June, 1958

VISITORS

<u>Name</u>	<u>Company</u>	<u>Contact</u>	<u>Date</u>	<u>Reason</u>
MS Bloomsburg	du Pont, Wilmington	PH Reinker	6-16/19	Discuss mechanized alpha canning
W Short	GE, Mfg. Services Schenectady N.Y.	JW Talbott	6-12	Tour 300 Area
EC Weber	Bumstead-Woolford, Seattle, Wash.	TW Gore	6-17/18	Project Engineer on boiler job
Phil McInnis	Phil McInnis Co., Spokane, Wash.	TW Gore	6-25	Consult on Project CG-759
CE Rorberg	Power City Electric Co., Spokane, Wash.	SG Forbes	6-27	Consult on Project CG-759
Mr. Shaughnessey	Shaughnessey & Co., Auburn, Wash.	SG Forbes	6-27	Consult on Project CG-759
DW Lillie	GE, Research Lab. Schenectady, N.Y.	HF Zuhr	6-9/13	Discuss Contract ATH-1-FPD-1958 fuel elements
WE Traggert	GE, Research Lab. Schenectady, N.Y.	HF Zuhr	6-9/13	Discuss Contract ATH-1-FPD-1958 fuel elements
JF Youngblood	GE Research Lab. Schenectady, N.Y.	HF Zuhr	6-9/13	Discuss Contract ATH-1-FPD-1958 fuel elements
H Poritsky	GE Laboratory Schenectady, N.Y.	RS Paul HL Libby TW Cannon	6-3	Discuss mathematical techniques of eddy current analysis
DL Tippenhauer	National Lead of Ohio, Cincinnati, Ohio	RE Olson	6-16/18	Discuss uranium processing

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TRIPS

<u>Name</u>	<u>Company Visited</u>	<u>Contact</u>	<u>Date</u>	<u>Reason</u>
TW Gore	Bumstead-Woolford, Seattle, Wash.	EC Weber	6-26/27	Consult on contract for Project CG-759
JT Mommsen	American Nuclear Society Show, Los Angeles, Calif.	-	6-2/5	Attend show
ES Bell	Continental Can Co., Seattle, Wash.	H Pittman	6-11/15	Inspect automatic welders
LE Kusler	American Nuclear Society Meeting, Los Angeles, Calif.	-	6-1/4	Attend sessions
	Atomic Products & Equipment Depart., San Jose, Calif.	EW O'Rourke	6-5/6	Discuss zirconium costs and fabricating techniques
HL Libby	Litton Industries, Culver City, Calif.	R Rutishauser	6-8/10	Observe operating & programming techniques with the Litton Digita Differential analyzer to obtain information on advanced electronic circuits & fabrication methods.
	Metrol, Inc., Pasadena, Calif.	R Hochschild	6-11/12	To discuss operating problems of the Radac nondestructive testing system.
RE Olson	American Bearing Co., Indianapolis, Ind.	J Farr	6-2/6	Discuss uranium pro- cessing and quality control
	American Bearing Co., Indianapolis, Ind.	H Lambertus	6-23/27	Obtain information on direct cast fuel cores
	National Lead Co. of Ohio, Cincinnati, Ohio	JC Mead	6-26	Discuss uranium qualiti control
SM Gill	National Lead Co. of Ohio, Cincinnati, Ohio	CE Polson	6-26	Discuss uranium heat treatment

TRIPS

<u>Name</u>	<u>Company Visited</u>	<u>Contact</u>	<u>Date</u>	<u>Reason</u>
SM Gill	American Bearing Co., Indianapolis, Ind.	H Lambertus	6-27	Obtain information on direct cast fuel cores
G Miller	Continental Can Co., Seattle, Wash.	H Pittman	6-12/13	Inspection & Acceptance of automatic welders
TB Correy	GE X-Ray, Milwaukee, Wis.	G Mahn	6-5	Check on progress of contract
	Hevi-Duty Electric Co., Watertown, Wis.	D Krezek	6-11/13	Perform acceptance test
	Miller Electric Manufacturing Co., Appleton, Wis.	D Warner	6-9	Discuss new equipment developments
	Plastic Capacitors, Chicago, Ill.	M Leff	6-10	Discuss equipment proposal specifications
EA Weakley	GEL, Schenectady, NY	RF Edgar	6-2/3	Magnetic drive-vacuum symposium
	Carborundum Co., Perth Amboy, N. J.	WL Upoten	6-4	Refrax equipment
	GE X-Ray, Milwaukee, Wis.	G Mahn	6-5/6	Feasibility Contract

PERSONNEL

<u>Name</u>	<u>Title</u>	<u>Nature of Change</u>	<u>Date</u>
Research & Projects:			
JP Covan	Engineer	Summer Hire	6-16
JP Sleeka	Rot. Tech. Grad.	Transferred in	6-2
Process Engineering:			
RJ True	Engineer	Summer Hire	6-10
Materials Engineering:			
FJ Van Kleeck	Eng. Assistant	Transferred in	6-23
EE Gerrels	Rot. Tech. Grad	Transferred in	6-9
Drafting & Files:			
WB Jackson	Engr. Designer	Transferred in	6-1

PROCESS ENGINEERINGRegular Production Rupture Experience

Five solid normal uranium and three solid enriched fuel element ruptures occurred in the reactors during the month. Of the solid normal uranium ruptures, three were unclassified, one has not been examined, and the other resulted from charging damage. All of the enriched ruptures were classified as hot spot failures. Distribution of ruptures by reactor was 2 in B, 2 in D, 1 in DR, and 3 in H.

The more favorable rupture trend is largely a result of reductions in reactor power, irradiating I & E enriched fuel elements on corrosion limits, and the discharge of M-388 clad solid fuel elements from the more rupture prone regions of KE and DR reactors.

I & E Program

The central I & E loadings of the KE and KW reactors are essentially 90 per cent complete. Approximately 1500 "O" size normal uranium I & E fuel elements were prepared and shipped to D reactor to initiate the central loading of this reactor early next month.

Jacket Rupture Program

Continued emphasis was placed on programs to reduce the incidence of corrosion failures. Calculated revised dimensions for K reactor normal and enriched fuel elements to obtain optimum temperature and flow balance were received from IPD. Prototypic fuel elements are being prepared for flow laboratory and in-reactor testing to confirm these dimensions, prior to the procurement of components for production. This material will be ready for testing in July.

Additional water mixing pieces were prepared for flow laboratory and in-reactor testing. Consumable electrode welding techniques and equipment are being developed to attach water mixing pieces to 6-inch I & E fuel elements on a production scale.

Preliminary studies to determine the feasibility of re-designing the I & E true-line contour to more nearly insure mating of contours in K reactor process tubes, indicate the design cannot be altered appreciably without sacrificing fusion weld closure quality. Further effort will be made to optimize the design without quality interference.

Total count bond test criteria was extended to all I & E production, beginning June 11, to reject fuel elements with clusters of braze porosity that might otherwise be accepted by the present circumferential count rate standard.

Ten tubes of I & E fuel elements are being prepared with special short (50 mil) grooved bridge rail supports, alternating 1245 and M-388 alloy jackets, to evaluate the effectiveness of these supports toward eliminating fuel misalignment and associated jacket corrosion in K reactor ribbed process tubes.

Process Technology

The following revisions were made to the "F" Process Specifications:

- A. Silicon concentration, lead temperature and AlSi temperature for the duplex canning bath were revised for solid cores to improve bonding in accordance with recent developments to reduce brittle bonds.
- B. I & E AlSi canning bath cycle was changed to facilitate component wetting.
- C. External count rate bond test limit was reduced to reject fuel elements having porous or unbonded areas greater than 0.75 cm., as measured in the circumferential direction.

A prototype of the fully automatic welders to be installed under the I & E conversion project has continued to operate satisfactorily on a production basis.

Electron Beam Welding

The design of electron beam equipment to weld fuel elements is about 70 per cent complete. Most of the vacuum equipment has been received. Some difficulty has been experienced by GE X-Ray in focalizing the beam during initial welding tests. Rotation of the beam, rather than the work piece, remains to be demonstrated.

MATERIALS ENGINEERING

Cast Washers and Fuel Cores

During the month work on the uranium casting contract with the American Bearing Division of the National Lead Co. was completed and castings were shipped to HAPO. This contract was to develop a process for casting washers and "C" size I & E fuel cores. It included production of 1,000 pieces of each item for Hanford evaluation. Reports are being sent to HAPO by ABC and will be issued shortly as joint reports.

Evaluation of the product of each process is being carried out. The washers appear to be suitable for an AlSi bonded canning process but small surface cracks may be detrimental to a nickel plated canning process. Evaluation of the cast I & E fuel cores is not yet complete but preliminary examination shows these castings to be sound and of good quality.

Braze Porosity

AlSi braze porosity in production canned fuel elements has increased slightly during the last few months as the hydroxyl content of the carbonate salt bath at the Fernald plant increased. However, the braze porosity associated with enriched uranium fuel elements has increased more than that of normal uranium fuel elements and constitutes a more serious problem.

This problem was discussed with NLO people to determine the difference between the two types of uranium. Briefly, the problem seems to be that enriched ingots

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are cast from derby charges with little scrap (remelt) uranium being added to the charge; whereas normal uranium ingots are cast from charges that contain significant quantities of remelt stock. Each time uranium is remelted, the hydrogen content is reduced. In some cases where low hydrogen uranium is required the ingot metal is remelted twice. Another method of obtaining low hydrogen metal would be to melt the metal in a shallow pool rather than the present deep crucible.

One immediate but temporary answer to this problem is to use more scrap fuel cores in the furnace charge. The long range and more permanent solution would be changes in casting practices at Fernald.

Uranium Cold Extrusion

Samples representing the extreme processing conditions tried during the cold extrusion of I & E uranium tubing at Hunter Douglas in May have shown little difference in metallurgical structure or orientation. This is interpreted to indicate that minor variations in extrusion conditions do not significantly alter the product characteristics. Preferred orientation is pronounced in the as-extruded condition but is essentially eliminated by standard beta heat treatment. The beta quenched grain structure is comparable to normal Fernald production uranium. No grain growth was experienced around the I & E hole as has been encountered with previous alpha extrusion at higher temperatures.

Cast Aluminum Extrusion Blanks

A representative sample of the first shipment of 1245 hot press I & E caps and cans fabricated from cast blanks were canned by HLO late this month. These are under examination.

The first lot of X-8001 solid eight inch cans fabricated at Hunter Douglas under this program have arrived here at HAPO. These also are under examination.

Extrusion Cladding

Work on the extrusion cladding program was primarily installation of the right-angle extrusion cladding equipment in a 306 Building 400-ton press. Plans for installation in the press used for hot-pressing experimental production were changed since hot-pressing work is to be continued for possibly another month. Instead, extrusion cladding equipment was installed in the press currently used for cold closure experiments. Both run-in and run-out space is severely limited; however, the installation will be adequate for initial testing of equipment operability and aluminum flow control with a variety of extrusion tool set-ups. Tests will probably be started the second week in July.

306 Fuel Element Pilot Plant

The primary effort of the pilot plant during June was the production of several different kinds of fuel elements for reactor charging. New "O" size natural uranium; revised "K" size natural uranium in X-8001 and C-64 components; enriched "O" size; and "dos" metal fuel elements were fabricated. Operating difficulties and

size changes resulted in considerable downtime for the nondestructive testing equipment. Lathe clutch trouble also limited finishing operations which lagged behind canning. All of the scheduled canning was completed, but only 75% of finishing and testing was completed.

Several tests designed to improve bonding are scheduled during July.

Pilot Plant Equipment Development

Several equipment modifications designed to increase pilot plant flexibility and to aid brittle bonding work are in process. These include: Relocation of duplex agitator solenoid valves to reduce pressure losses and increase oiling efficiency; purchase of four new lubricated and cushioned air cylinders for the duplex agitator; modifications of the sleeve return conveyor; modification of the resistance furnace ventilating equipment to permit the installation of a canning type hood; new lathe chuck jaws with interchangeable textolite pads to cover all new fuel element diameters.

An appropriation request has been issued for new bond penetration electronic equipment identical in design to the latest design equipment.

A preliminary layout is being prepared for the installation of three tanks to be used for chemical machining, caustic stripping, and ultrasonic cleaning of fuel elements.

Two semi-automatic welders are being obtained to replace two of the manual welders now in use.

A program to analyze, optimize, and standardize canning bath vibration equipment is in progress. The work to be accomplished includes: The determination of the vibration characteristics (frequency and amplitude) of existing equipment; the design of mountings to isolate the vibrating equipment from the canning furnaces and jacks; and the investigation of frequency and amplitude variation on porosity and bonding.

TESTING METHODS

Fuel Element Testing

Solid enriched fuel elements were successfully tested for general porosity in the braze layer with the new long-memory count-rate circuit. Results obtained from destructive examination confirmed the effectiveness of this test. Detailed recommendations are being prepared for use of this more restrictive bond test on all production after installation of the new I & E testers.

A "fixed position" crystal mounting for the Transformation Test is being evaluated in the pilot plant. This is designed to increase the reproducibility and simplify the adjustment procedures when changing from testing solid to I & E cores. Preliminary results are very satisfactory.

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Project CG-713 - 313 Building I & E Conversion

Four bond-penetration electronic consoles have now been completed and delivered to the 326 laboratory. All the bond testers were modified to include the new long-memory count-rate reject circuit. Some minor mechanical changes are being made in the servo probe mounting for the external penetration test because of defects revealed in evaluation tests. The original probe positioning unit is being replaced by one that is smaller and has a faster response. The new unit uses the voice coil assembly from a small electrodynamic loudspeaker. Completion of the two new automatic tester conveyors has been delayed and delivery is now promised for early July. Manual preparation and craft instruction are proceeding as scheduled.

NPR and Category II Development

Efforts on this program were confined to design and assembly of laboratory equipment for testing elements of varying sizes.

New Methods Development

Use of barium titanate crystals with the prototype ultrasonic attenuation core tester gave an overall gain improvement of ten compared to the quartz crystal system. This will simplify the testing of high attenuation (excessively large grain size) cores. Efforts to detect internal cracks in cores were not successful at five megacycles because of the high attenuation at that frequency. A two megacycle system is now being built to investigate crack detection.

Considerable attention is being given to study of very light-weight surface-riding probes for eddy current testing. In many applications of the eddy current method, variations in the probe to surface spacing limit the test sensitivity. One possible way to avoid this limitation is to build a probe of small mass with a bearing surface with high wearing qualities. This probe will then maintain surface contact despite mechanical vibrations as the test specimen is scanned. Probe surfaces of chrome, sapphire, aluminum oxide, and silicon carbide are under investigation. Several of these show negligible wear when the contact pressure is reduced to several grams.

Hanford Test Reactor

Several special tests were completed and metal testing continued routinely. Development of the prototype sub-critical neutron flux monitor was completed and this safety system is now ready for final installation.

RESEARCH & PROJECTSStatus of Projects

CG-713 - Conversion to I & E Lead Dip Fuel Elements: The weld inspection booth was started. The welding enclosure has been erected and all five welders are in place. Installation of wiring and electrical components has started. The first

of the power supplies was shipped on June 30. The second major equipment re-location is planned for the week end of 7-4-58 to 7-6-58. The prototype buffer is being de-bugged. Only a small portion of the electrical components have not arrived on the plant site. Bids have been requested on the automatic buffers and the radiograph trays.

CG-759 - Additional Steam Generating Facility, 300 Area: Bumstead-Woolford Company, Inc., started preliminary design on June 3, 1958. Eight drawings were submitted for review on July 7, 1958. Work on dust collector and plant flow diagrams is in progress. Field work started on July 2, 1958.

CA-774 - 300 Area Water System Modifications: Mokler Plumbing & Heating Company, Kennewick, was low bidder (\$173,350) on the fixed price portion of the work. Government fair cost estimate was \$183,800. Notice of Award was issued 6-26-58.

CG-787 - Sprinkler System - 313 Building Addition: Low bidder for the work was "Automatic" Sprinkler Corporation of America, Seattle; price \$21,616. Government fair cost estimate was \$28,500. Notice of Award and Notice to Proceed was issued June 23, 1958. Preparation of layout drawings by contractor to start after his personnel obtain "L" clearance—about August 15, 1958.

CA-792 - Warehouse Space - FPD: Low bid submitted by Lewis Hopkins Company, Pasco, for construction of the warehouse facility and other work in the outer areas. General Electric fair cost estimate for the FPD portion of the work was \$40,000. Notice of Award issued June 26, 1958.

CGF-810 - 306 Building Pilot Plant Modification: The project proposal, which requests \$750,000 to establish an extrusion facility is awaiting local AEC approval. The specifications for the extrusion press will be ready to be issued to prospective suppliers soon after favorable action by AEC.

Research and Development - Irradiation Testing

A. Status of Test Facilities

Loop 1 - Loop 1 is still being repaired. The 7-rod clusters to be charged about July 15.

Loop 2 - The loop was charged on June 28 with enriched 4-rod Zircaloy-2 clad clusters, X-8001 aluminum alloy clad doe elements, aluminum clad target (mint) elements, and a dip canned heavy walled uranium fuel element with thermocouples in the can wall. The goal exposure of this test is 1000 MWD/T or 75 operating days, whichever is reached first.

Loop 3 - The 4-rod stainless steel clad cluster fuel elements were discharged on June 28, after about 2200 MWD/T exposure. A charge of long cluster fuel elements will be charged in this loop at the next outage.

Loop 4 - The 1.6% enriched washer fuel elements clad in A-2 alloy was discharged on June 28. The exposure on this test was about 900 MWD/T at discharge. This

test had run at 80 KW/ft. maximum power. An aluminum clad doe metal charge is the next test scheduled for this loop. The alloy to be used has not yet been determined.

Research and Development - Fuel Element Development

A. Pilot Plant Design Work

Based on fuel element dimensions obtained from IPD, the billet sizes for coextrusion billets have been calculated. With the assumptions made, it will be possible to fabricate fuel shapes desired. In addition, it will be possible to pre-extrude zirconium components for billet cladding from ingot material. A report, HW-56609, was issued covering this work. No further refined billet dimensions will be made until a firm fuel element design is established.

Currently, a complete process flow diagram for the proposed pilot plant operation is being prepared. Detailed design of particular items within the plant will be started during July.

B. Uranium Alloys

The alloys have been prepared and a chemical analysis showed the ingots to be free of segregation. During the rolling of the ingots to rods the 0.25 w/o Cr alloy cracked. The alloy will be remelted and rolled in the low gamma phase instead of the high alpha phase.

The other alloys will be machined, plated, and canned during the coming month.

C. Restraint of Uranium

The restraint experiment has reached an approximate exposure of 1700 MWD/T under the same environment as previously listed. The sample is to be discharged on reaching an approximate exposure of 2500 MWD/T after which it will be examined.

D. Diffusion of Metals

The U/Ni/A-2 alloy diffusion couples have been annealed and are now awaiting examination. The U/Ni/X-8001 diffusion couples have been analyzed and a report covering this study will be issued shortly.

DRAFTING & FILES

Major Jobs in Drafting

306 Building:	NPR Ultrasonic Test Tank
	Fuel Element Pilot Plant Layouts
	Electron Beam Welder

313 Building: Sleeve Cleaning Machine Demister
Welding Lab. Arrangement
Automatic Buffer
Quality Control Counter
Dip Quench Machine
Automatic I & E Tester - Details - As-Builts

300 Area General: Water Lines - As-Built

Miscellaneous: Film Badge Distributing Machine

Drawings Produced: New 72
Revised 67
Large Charts 1
Small Charts 28
Miscellaneous 30

ADVANCE ENGINEERING

Nickel Plated Aluminum

The potential of externally plated aluminum as a fuel element cladding material is being investigated as a method of controlling "hot spot" corrosion, and for other special reactor applications. Recent experience with natural uranium fuel elements plated with 1-1/2 mils of nickel exhibited satisfactory corrosion properties in out-of-reactor tests, and also when irradiated under PT conditions to about 333 MWD/T during a 53 day exposure at HAPO.

Utilizing the amount of nickel presently specified in the existing X-8001 alloy, a nickel plate of between 0.00015 - 0.00025 inches thick could be formed over the exterior surface of an I & E fuel element. Early experiments at ANL have indicated satisfactory protection of the aluminum under dynamic corrosion conditions for over 100 days, with coatings of comparable thickness. Further studies will be made to determine the feasibility of using nickel plated aluminum as a means of controlling "hot spot" corrosion for high temperature operation.

INVENTIONS

All Engineering Operation 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 June, 1958, except as listed below. Such persons further advise that for the period therein covered by this report, notebook records, if any, in the course of their work have been examined for possible inventions or discoveries.

NONE

A. Zuh
Acting Manager - Engineering

HF Zuhr:gbm

FINANCIAL OPERATION

JUNE, 1958

AUDITS AND PROCEDURES

Auditing - The FPD Internal Auditor concluded a two month assignment with the GE Traveling Auditors during the month. Ten internal auditors and two other HAPO financial representatives worked for varying periods with the four traveling auditors during their 12-week general HAPO audit. Recommendations and observations made by the Traveling Auditors were carefully noted and progress reports are to be issued indicating actions taken.

Procedures - The integrated process materials paper work procedure recently completed will promote better correlation of the functions of receiving, inspection and disbursement of this inventory. Advantages of the improved procedure are:

1. Elimination of one complete inventory control ledger.
2. Elimination of a complete inventory and lot record card file.
3. Substantial reduction in number of forms and amount of paper work through design of multi-purpose and consolidated forms.

Other procedural studies started during the month include: (1) a comprehensive inventory of all FPD personnel record documents, (2) analysis of present work order and applied labor distribution system, and (3) appraisal of paper work procedures in the 305 Test Reactor Operation.

Progress in data processing applications within the Department during the month included:

1. Adoption of the mechanized daily work distribution and preventive maintenance procedure to all Manufacturing Maintenance applied labor employees. Previously this procedure was limited to a trial group.
2. Examination of progress on general ledger mechanization in Relations and Utilities Operation and evaluation of possible advantages of adoption by FPD.
3. General improvement of plant-wide property accounting IBM records and procedures.

GENERAL ACCOUNTING OPERATION

An annual report on FPD Foreign travel was prepared for AEC. Activity during FY-1958 consisted of two trips to Chalk River, Ontario, for which a total of \$593 was billed to the Commission.

A letter requesting approval for the FY-1959 Assistance to Hanford Program was submitted to AEC. Authorization of \$35,000 was requested for technical or consulting work and/or other special services to be performed by other General Electric Company Components.

A comparison of June travel and living expense statistics with May statistics is summarized below. All outstanding advances were settled as of June 30. The \$47 balance represents settlements due from claims filed with carriers by the Traffic Operation.

	<u>June</u>	<u>May</u>	<u>Increase or (Decrease) Over May</u>
Travel advances to employees:			
Balance at beginning of month	\$10 876	\$ 4 500	\$ 6 376
Current month charges	<u>3 308</u>	<u>10 656</u>	<u>(7 348)</u>
	<u>14 184</u>	<u>15 156</u>	<u>(972)</u>
Less:			
Expenses accounted for	12 282	3 940	8 342
Advances refunded	<u>1 855</u>	<u>340</u>	<u>1 515</u>
	<u>14 137</u>	<u>4 280</u>	<u>9 857</u>
Balance at end of month	\$ <u>47</u>	\$10 876	\$ <u>(10 829)</u>
Outstanding Travel advances:			
Current	\$ 47	\$10 434	\$(10 387)
Outstanding over 15 days	<u>-0-</u>	<u>442</u>	<u>(442)</u>
	\$ <u>47</u>	\$10 876	\$ <u>(10 829)</u>
Number of expense reports submitted	43	20	23
Number of cash advances	21	32	(11)

All Deferred Charges and Liability general ledger accounts were reviewed in an attempt to reduce balances wherever possible. The only balances to be reflected in these categories over the year-end will comprise current transactions.

The proposed modification No. 18 to Appendix "B" of the Prime Contract was reviewed and comments submitted to Contract Accounting. The primary purpose of this modification is to revise Appendix "B" in accordance with provisions outlined in a recent delegation of authority authorizing a Department General Manager to approve restoration of continuity of service and service credits in certain cases and to approve leaves of absence.

All completed projects are unitized and closed to Plant and Equipment in Service. Three projects were unitized during June at the following amounts:

CG 737	Electric Pneumatic Control System - Canning Area, 313 Building	\$37 010
IR 210	Oil, Paint, and Solvent Storage Facility - 300 Area	14 418
IR 228	Evacuation Warning System - 300 Area	<u>10 681</u>
		<u>\$62 109</u>

Permission was granted by the Commission to write off the net over-accrual of \$1,019 on Accrued Costs for Closed Projects.

Work in Progress accounts were analyzed to insure that all completed work was transferred to In Service accounts for fiscal-year closing. Transfers during June totaled \$69,314 for equipment items and \$15,462 for construction.

A test physical inventory of the 3706 and 3706-A building service equipment was conducted in June. As a step toward more effective property control of such equipment, existing record sheets are currently being revised. Recommendations for proposed changes will be made to Management by August 1, 1958.

The proposed AEC revision of HA Supplement 6106 - Project Directives, Preliminary Proposals, and Prototype Reports was reviewed in conjunction with the Research and Projects Operation and recommendations forwarded to Contract Accounting on June 27.

Request was received from AEC for the submission of representative economy measures in FY-1958 for inclusion in its report to Washington. This report is a replacement of the Annual Savings Report submitted in prior years. Information furnished by Operating Components was compiled and submitted.

An AEC revision to Project CA 774 - 300 Area Sanitary Water System Modification-FY 1958, was approved by the AEC Review Board. Authorized funds were reduced by \$71,500, from \$321,500 to \$250,000. Reduction was made possible by changes in project scope and contingencies, as well as favorable contract price.

MEASUREMENTS

The study to develop new or improved measures for all Maintenance and Power activities was continued. Tentative measures of performance have been developed for all functional activities with major emphasis on the productivity measurement. Several current measures were revised to provide more useful data and information on performance. A number of new measures developed will require considerable testing and evaluating to determine their individual usefulness as a measure of performance. The ultimate goal is to provide a method whereby productivity may be determined for Maintenance and Power as a whole.

Initial work was started on the second-quarter report of the Department's progress on established goals. In addition, level 3 operations have started preparation of second-quarter progress reports.

PERSONNEL ACCOUNTING OPERATION

Representatives from Financial and Employee Relations Operations met to discuss and formulate plans for a study of the Department's Personnel Records system. The objective is to achieve the most economical system possible to adequately fulfill needs of the Department. Particular emphasis will be placed on elimination of duplicate records and on developing a system requiring a minimum of maintenance.

Managers of Personnel Practices, Union Relations, and Personnel Accounting held an informal luncheon meeting with members of supervision of the Canning Operation for the purpose of discussing items of mutual interest. Vacation schedules prevented more than one meeting during the month. The program will be accelerated following the heavy vacation season.

The Consumer Price Index for May rose to 123.6, an increase of .1% over April. This represents the 19th straight rise in the index in the last 21 months. Should the index remain at this level through June, the "adder" factor to non-exempt salaries will be increased another .59% in July.

A review of Department exempt salaries reveals that increases scheduled for the balance of the year will raise 26.3% of the salaries above midpoint of the range, provided there is no change in the salary structure. A 2% increase in salary structure would reduce this figure to 12.6%. On the same basis, percentages for total HAPO (including FPD) will be 39.0% and 27.8%.

An employee was transferred from Manufacturing Operation to Personnel Accounting as replacement for an employee removed from payroll for pregnancy.

PRODUCT COST OPERATION

A charting program is currently underway to compare actual cost performance for FY-1958 for each level 3 operation with budget and goal costs for FY-1958. Plans are to continue chart comparisons on a monthly basis throughout FY-1959.

Work has been started on establishing a target budget for FY-1959. Firm personnel assumptions are not available at present and problems concerning funding of R&D and Process Technology have not been resolved.

For comparative purposes, production cost for FY-1958 has been recast to conform with present methods of reporting. The recast was necessitated by organizational and accounting changes made earlier in the fiscal year.

Revised process material standards were developed and used during June. New standards indicate tighter control on material consumption as quantities of components allowed were reduced approximately 3% below old standards. New operating labor standards have not been developed, but should be ready for use for July reports.

A meeting of Product Cost and Employee Relations representatives was held for the purpose of increasing utilization of information contained in personnel forecasts. Quarterly personnel forecasts prepared by level 4 components would provide Employee Relations with information needed for planning personnel increases or decreases and would also provide Product Cost with personnel trends needed for goals, forecasts, budgets, etc. A quarterly personnel forecast could be prepared to cover the periods between the mid-year budget review and the annual budget.

In July, Product Cost Operation will assume responsibility for coordinating, consolidating and issuing two reports previously issued by Maintenance and Power Operation. Report titles are "Estimated Requirements for Selected Materials per AEC Bulletin 12" and "Quarterly Revision of Requirements Study per AEC Bulletin 17".

Considerable time was spent preparing for responsibilities to be transferred from Manufacturing Operation to Financial Operation. Effective July 1, 1958 the following duties will be assumed by Inventory Accounting:

1. Maintenance of perpetual inventory records of process materials.
2. Weekly report of process materials available for the process line.
3. Consolidate and issue monthly Essential Materials Report.

The regular monthly physical inventory which has been used in the past to determine consumption for the period will be discontinued.

A tentative schedule covering annual physical inventories of materials was established in accordance with AEC requirements as follows:

September 30, 1958	Essential Materials
" "	Special Materials
March 31, 1959	Coal
" "	Special Materials

A meeting was held with SS accountability personnel and the following items were resolved to become effective 7-1-58:

1. Fuel element factor weights to reflect uranium content only (total weight less impurities).
2. Factor weights to be carried to three decimal places.
3. Fuel factor weights to be reviewed at six month intervals.

A meeting was held with Contract Accounting, Financial Consolidations and SS Accountability to discuss consistency in reporting SS material scrap sludge and improved methods for establishing finished product values as billed to Irradiation Processing Department.

Small tool control by FPD Maintenance forces was investigated. Although some time is expended by tool crib attendants in posting entries to personnel records for issuance of a complete tool box, miscellaneous issues are based on a chit system or ticket signature system. The time factor is negligible and maintenance foremen believe the psychological benefit of checking tools far outweighs the cost factor.

A meeting was held with Plant Engineering and Power to discuss an Engineering study on cost distribution of compressed air and sewage. Agreement was reached that our present distribution system was outdated and necessary corrective action has been taken.

A write-up on responsibility accounting, based on utilizing the latest information, was prepared for the purpose of introducing non-financial people to this theory.

Manager - Finance

WS Roe:mh

MAINTENANCE AND POWER OPERATION

JUNE 1958

GENERAL

Productive Maintenance Program

Outstanding orders as of May 31	64
Orders issued in June	60
Orders completed in June	59
Orders cancelled	17
Outstanding orders as of June 30	48

There was 1 cost reduction completed, representing annual savings of \$9,236. This brings the total savings for the quarter to \$29,505, which represents 128 per cent of the quarterly Cost Reduction Budget. Savings of \$50,786 were realized in the first six months of the year. This is 58 per cent of the annual Cost Reduction Budget.

Initial plans were made for the removal of the Warehouse Building, 3722-A, from the 300 Area.

The format for the Customer Relations Survey has been agreed to by all concerned. Tentative plans are to complete the survey during the 3rd Quarter of CY-1958.

The procedure for Emergency Plans - 300 Area has been reviewed by HLO. It is to be adopted as part of their system. FPD's Advice on this subject will be issued shortly.

Eleven unfired pressure vessels belonging to FPD were inspected by the Third Party Inspector, a representative from the Travelers Indemnity Company.

AREA MAINTENANCE

Duplicating

<u>Process</u>	<u>No. of Orders Processed</u>	<u>No. of Impressions</u>
Multilith	784	456,688
Verifax	93	2,538
Ozalid	95	6,681
		<u>465,907</u>

There were 13 Formal Reports completed, consisting of 5,399 copies and 140,060 pages.

To improve mail service in the 300 Area, Swing Shift delivery was initiated. The Swing Shift delivery permits the distribution of mail received from the outer areas and magazines during Swing Shift. Mail is available in the offices for immediate attention first thing the following morning.

General Maintenance

Equipment interconnection and installation in the 321 Building for the Darex Process continues ahead of schedule. All that remains to be done are minor changes to the steam and water lines and leak testing of the entire installation.

A constant pressure Argon-Methane system for the 329 Building was completed. This required the installation of a new 6 cylinder manifold plus a dual regulating control system and a gas main from the storage shed to the counting room.

New anemostats were installed in the Conference Room of the 3760 Building. The new anemostats were installed to eliminate the noise problem associated with the former installation.

INSTRUMENT AND ELECTRICAL MAINTENANCE

The Portable Shop repaired 948 portable radiation detection instruments. Average time per instrument was 0.913 man-hours.

Fire Alarm Box #54 was added to the 300 Area Fire Alarm System on Thursday, May 29. This box is located at the PRTR storage facilities. This box will facilitate the rapid reporting of fires that may occur in this high hazard, high value area during the construction period.

All electrical work connected with the Darex Project has been completed. Electrical service was restored to the 321 Building tank farm and warehouse upon the completion of the warehouse installation by CEO.

A 6 point Foxboro resistance bulb temperature recorder was overhauled and modified for use in the Darex dissolver. The former 0° to 120° C. range was changed to 30° to 150° C. This was accomplished by changing resistors in the system.

The reliability of the Technical Measurements Corporation 100 Channel Analyzer recently installed in the 326 Building has been poor. The instrument is highly unstable and appears to be tube sensitive. Information received from the factory indicates they are having similar trouble with other instruments they have sold. The customer organization has asked us to make necessary circuit changes to make the device operable. We are keeping in contact with the factory and have asked Oak Ridge, the design location, to send us their latest specifications.

The automatic scanning device for GE X-ray diffractometer in the 326 Building has been completed. The device functions very well and will speed up the analysis of routine samples by better than 100 per cent. The device was designed and built by two Instrument Technicians.

A furnace control panel for use in the 327 Building was completed. The panel has 6 pre-set temperature control programs which provide adequate rates of heating, cooling, soaking, and repeat cycles.

Damage amounting to \$248 to the 329 Building counting room instruments was caused by the failure of the air conditioning unit. The temperature in the room rose to 95° F. This heat caused a number of tubes and diodes to fail. In addition, some heat damage to the memory circuits in the 256 Channel Analyzer resulted before the fuses blew. All instruments were repaired, calibrated, and back in service within 4 hours.

Strain gage recording equipment to measure and record the flexure of a beam was completed for the Process Instrument Development Operation.

A photometer system to measure and record the density of uranium process solutions was completed.

Arrangements for an Instrument Specialist from the CPD to be trained on the maintenance and repair of the 256 Channel Analyzer was completed. This training will be done by the Laboratory Instrument Group.

An Instrument Technician, J. I. Forsberg, attended a one-week training course on Tektronix 531 and 541 Series oscilloscopes. The course was held at the Tektronix factory in Portland, Oregon.

POWER

<u>Statistics</u>	<u>June</u>	<u>May</u>
Average Steam Generated (M lbs/hr)	23.1	29.1
Maximum Steam Generated (M lbs/hr)	38.0	47.0
Total Steam Generated (M lbs)	16,648	21,642
Coal Consumed (Tons)	1,106	1,427
Evaporation Rate (Steam/#Coal)	7.53	7.58
Efficiency - Actual	61.4	60.0
Efficiency - Theoretical	64.7	66.7
No. Boilers On 1 2 3 2		
Date of Change 1 27 28 29		
Sanitary Water from 3000 Area (Million Gals.)	62.0	63.5
Total Water from 3000 Area (Average Rate, GPM)	1,436	1,423
Total Water from #3 and #4 Wells (Million Gals.)	11.7	12.9
Total Water from #2 Well (M Gals.)	.30	.30
Peak Water Consumption for 24 Hours (Million Gals.)	2.4	2.4

An unscheduled steam outage occurred on Friday, June 13. The outage resulted from the packing blowing out of the 8" high pressure steam supply valve at the 325 Building. As a result of this failure, it was necessary to shut down the steam flow in the east export steam line. Steam flow was interrupted after the HLO Landlord was informed of the condition. Buildings 325, 326, 327, 328, 329, 3701-L and 3760 were without steam for one hour.

A new 4" service line was installed in the 314 Building. This line enters at the south end of the building.

The septic tank effluent lines were repaired. All effluent is now passing through the existing weir box and into the north leaching trench.

Third Party Inspection of Nos. 1 and 2 Boilers was completed. Boilers were found to be in satisfactory condition.

PLANT ENGINEERING

There were 33 training classes held for craftsmen of HLO and FPD. This represents 402 man-hours of craft training. Review tests from the manual "Related Information Electricity II" were given to six electrical craftsmen. Grades ranged from 72 to 86, with an average of 80. These results indicate the employees have been doing work on their own time during the past three months, as a part of their individual Self Development Program.

A manual on the Acme-Goodley lathe, 313 Building, was completed.

All work included in the lump sum contract for the modification of the 3707-C Building was completed. This contract was with the CEO. The work has been accepted and the contract closed.

A contract for the modification of No. 4 Well House was awarded to the CEO.

An appropriation request for an additional fly ash separator at the power house was approved. The addition of this separator will permit passing all off-gas from the boilers through separators to reduce the fly ash emission to a minimum.

The responsibility for representing FPD in the proposed relocation of the Richland-HAPO security barricade was assigned to the Plant Engineering Operation.

FIRE PROTECTION

<u>Fire Responses</u>	<u>No.</u>	<u>Loss</u>
HAPO	9	\$10.00
Construction	0	---
Private	0	---
Outer Area	2	---

Significant Fires

On June 9, 1958 a barrel of uranium, aluminum and zirconium turnings and sludge spontaneously ignited at the 306 Building.

On June 26, 1958 lightning ignited dry grass and brush two miles north of Mile Post 15 on Route 4 south. Twenty-five hours were spent fighting the fire, with CPD and IPD Fire Protection forces supporting FPD forces. Approximately 2,500 acres were burned.

The use of TMB (Trimethoxyboroxine) on the sludge barrel fires on May 22 and June 9 at the 306 Building was very effective. The fires were extinguished rapidly, with very slight loss of the barrel contents. This has proved to be the most effective extinguishing agent for pyrophoric metal fires we have found. However, the effect of Boron contamination on the extinguished material must be evaluated to determine if this material will continue to be used.

INVENTIONS

The Report of Invention on the Wand type GM was submitted. The inventor is L. M. Palmer, Instrument and Electrical Maintenance Operation.

All other personnel of the Operation engaged in work which might lead to inventions and discoveries advised that, to the best of their knowledge, none were made in the course of work during June, 1958.

SAFETY, SECURITY AND RADIATION EXPERIENCE

Medical Treatment Injuries	23
Frequency Rate	5.54
Disabling Injuries	0
Near Serious Accidents	0

There were no radiation overexposure cases reported.

There were no security violations reported.

MEETINGS

Round Table-Staff	21
Safety and Security	31
Information	7

Manager
Maintenance and Power Operation

E Hilgeman:JPF:mkm

EMPLOYEE RELATIONS OPERATION
June, 1958

PERSONNEL DEVELOPMENT

Personnel Development programs concluded, initiated or in progress during the month included the following:

1. The course, "Financial Fundamentals" for other-than-Financial employees was completed at the end of June.
2. One employee continued participation in the pilot course: "Creative-Approach-Seminar" being presented in IPD.
3. One employee completed and another began participation in the Reactor Process Fundamentals course being presented in IPD.
4. One employee participated in the Management Orientation course.
5. Twelve exempt employees participated in the Communication Workshop.
6. Eight Engineers participated in the Written Communication course in accordance to specific requests for this course through the exempt Personnel Development Review.
7. Offsite training included one man's participation in the GE Material Handling Technical Session, held in conjunction with the National Material Handling Exposition. Other offsite training included participation by two men in the Conference of American Institute of Industrial Engineers.

Total Company-sponsored training, appropriate portions of which were conducted on employees' own time, totaled 1.37% of exempt employees' normal working hours during first half of CY 1958. In-plant, or GE courses during June, accounted for 0.84% of exempt working time. Reported total training during June was approximately 1.0%.

Six FPD employees graduated from the BTC Program, a two-and-a-half year GE Personnel Development Program.

Three men returned to their parent organizations after having three months on special exchange within FPD for the purpose of development and expanding breadth of experience.

A report on training activities within FPD during 1957 was submitted to R&U for inclusion in a HAPO-wide report requested by the Commission.

Development of a system for inventorying exempt employees' skills, knowledges and abilities was advanced with preparation of two key forms, a master definition list and alphabetical listing.

A man-manager relationship questionnaire for non-exempt employees was revised and made available for use on a test basis within the Department.

One Technical Graduate completed his rotational assignment within Fuel , and four others joined the Department, leaving a total of six Technical Graduates in addition to two summer students and two professors in FPD at month's end.

Plans were firmed for Fuels' participation in the HAPC orientation program for summer employees and newly recruited Technical Graduates.

COMMUNICATION

An FPD Operation Upturn Council was formed and departmental plans established. Two Operation Upturn posters were placed throughout the Department.

Suggested material for Round Table discussion sent to supervisors placed heavy emphasis on Operation Upturn, stressing the need for improved service to all "customers" for FPD products and services. A booklet on "Economics of the Recession" was mailed to managers and arrangements made to place copies in Department reading racks. Special safety program to encourage top safety performance, tied in with Operation Upturn, included the monthly Safety Topic, posters and information in the FPD Newsletter.

Communication counsel and guidance was provided to various functional managers on: changes in 300 Area mail service, implementation of Department absenteeism report, layoffs within Manufacturing, impact of the Oak Ridge radiation incident on Department employees, improving distribution of Step I grievance answers within Manufacturing, the James Arbitration Case, validation of craft testing program.

Composite reactions of non-exempt employees participating in four General Manager's Information Meetings were compiled. Virtually all participants indicated strong favorable reaction to these meetings, which have been increased to two per month.

The Hanford Laboratories Operation's responsibility for PRTR and its fuel element development was clarified through a Management News Bulletin item.

Report of the Corporate Alumnus Program activities during 1957 was sent to FPD college graduates.

Winning of the first, third and fifth places by FPD people in the April Washington State Safety Slogan Contest, and of the first and second places in the May contest, were publicized.

Four Management News Bulletins and three FPD Newsletters were issued during the month. Two General Manager's Information Meetings with non-exempt employees and one with exempt were arranged.

GE News coverage of FPD activities and employees totaled 96 column inches during June. Of this number, five and one-half column inches were devoted to routine items and 90 $\frac{1}{2}$ column inches to plant communication in support of Department programs. The total represents an average of approximately one-third GE News page per issue.

Members of the Yakima Valley Ministerial Association toured the 305 Test Reactor on June 30. Names of four additional Fuels' employees were included in the HAPC Speakers' Bureau.

SALARY AND WAGE ADMINISTRATION

Four positions were audited in June. With the usual exclusions, 18 of the 112 positions have been audited, or 64% of the two year goal on a monthly basis.

In response to a request by the Relations and Utilities Salary and Wage Manager, all reconciled positions in Level 8 and below were evaluated using revised score points as developed by the Salary Specialists earlier in the year. Relations and Utilities Operation intends to plot the changed score points for reconciled positions of all Departments with the previous points to determine if the position level point scale should be changed.

Pay-performance charts are being prepared which will update all salary and appraisal actions occurring since December 1, 1957. The charts will be distributed to supervisors of exempt people for use in scheduling their people into the new plan of appraisal and salary action. Necessary instructions and advice to implement this changeover are being prepared for mailing with the charts by July 1, 1958.

An Attitude Survey questionnaire containing 10 questions in the exempt compensation and appraisal areas has been approved for issuance. These 10 questions will give a sound basis for comparison with similar questions of September, 1957 survey to determine if and where improvements have been made in the exempt compensation and appraisal picture.

W. R. Jacobson, Consultant, Employee Compensation Service spent almost two weeks at HAPO serving as a valuable catalyst in the formulation of a study of current HAPO nonexempt compensation. Study teams have been set up to review our practices with a view toward improvements as appropriate. Each study team will be chairmanned by a Salary and Wage Manager responsible for the objectives and goals of the respective teams. Overall coordination was assigned to H.A. Paulsen of HLO. T. B. Pugh of R&UO will act as General Secretary.

In addition to establishment of study teams the task force has determined basic problems in the present HAPO nonexempt pay plan and has documented broad objectives and specific goals which should guide a nonexempt compensation plan.

Four study teams are now active in the areas of (1) organization structure and position descriptions, (2) salary structure, (3) position evaluation, and (4) performance appraisal.

The Manufacturing Operation Production Job Study has met some interruptions as a result of the wage study discussed above. The study report is presently being organized and every effort will be made to issue the report during the week of July 7, 1958.

An intensive study of the content and maintenance of all current Department personnel records was initiated on June 13, 1958. The objective of the study is to adopt an economical personnel records system that adequately satisfies the needs of the Department.

A new form for payroll status change for nonexempt employees is in service. This form, as well as a similar revision for exempt status changes expected to be in service soon, was developed by FPD.

PERSONNEL PRACTICES

Technical Personnel Placement

Experienced and BS/MS Recruiting (1-1-58 through 6-30-58)

	<u>Cases Considered</u>	<u>Invitations</u>				<u>Offers</u>			<u>On FPD Roll</u>
		<u>Ext.</u>	<u>Visited</u>	<u>To Vis.</u>	<u>Open</u>	<u>Ext.</u>	<u>Acc.</u>	<u>Open</u>	
Engineering	20	1	1	0	0	3	2	0	2
Science	9	0	0	0	0	0	0	0	0
Other	113	0	0	0	0	1	0	0	1

PhD Recruiting

	<u>Cases Considered</u>	<u>Interviewed</u>	<u>To be Interviewed</u>	<u>Offers</u>			<u>On FPD Roll</u>
				<u>Ext.</u>	<u>Acc.</u>	<u>Open</u>	
June, 1958	7	1	--	0	0	0	0
CY'58 to date	57	2	--	1*	0	0	0

*Carry over of 1 case from 1957

Terminations and Transfers, Technical and/or Exempt Personnel

	<u>Terminations From FPD Roll</u>	<u>T-r-a-n-s-f-e-r-s</u>					<u>Active Cases</u>	<u>Dormant Cases</u>
		<u>Considered</u>	<u>Completed</u>	<u>Closed</u>	<u>Cases</u>			
June, 1958	2	0	0	3		11	2	
CY'58 to date	11	44	7	24		--	-	

* Carry over of 5 cases from 1957 (3 active and 2 dormant)

All Summer Program employees for the Fuels Preparation Department have arrived and have been assigned.

The number of position openings referred to the Fuels Preparation Department during the month of June was comparable to the number referred during the month of May. Twelve were received from other GE components and five from HOO-AEC. No qualified candidates were available from the Fuels Preparation Department for consideration in filling these openings. However, resumes of two candidates were submitted for consideration in filling an opening submitted by GPD during the latter part of May.

Referrals of exempt personnel from other GE components for placement consideration in the Fuels Preparation Department were as heavy as those referred during the month of May. A total of 14 referrals were received for the month. Eight from other HAPO-GE components, 5 from off-site GE components and 1 from open market. No openings were available in FPD for which these people could be considered commensurate with their background and experience.

W. B. Jackson, a designer, was transferred from CEO to the FPD roll during the month.

Employment

Personnel: Added: 10 Removed: 23

Reduction of Force: By FPD 10
 By Seniority bumping 4

Transfer requests active at month end: 50

Procurement:

Offers:	3	Requests for personnel:	7
Interviews:	2	Transfers (all):	6

Upgrades within FPD: 7

Perfect attendance recognition awards: 8

Service recognition pins: 2 10 year, 1 5 year

Employee Benefits and Service

Employee Benefit Plans participation is as follows: Pension 99.9% ;
Insurance 100 %; Stock Bonus 62.9% .

Nonveteran employees subject to Selective Service are classified as follows:

1-A 10 ; 2-A 9 ; and all others 9 . In addition there are: 9 technical
occupational deferments active; 14 Standby and 35 Ready Reservists; 3 employees
on military leave.

Security Violations for June - 1

General

Peter Terpilak, Janitor in Maintenance and Power, retired on June 1, 1958 with
13 years of service.

A report on absenteeism in FPD during CY 57 was prepared. Copies of the summary
on the principle items were distributed to Managers and Supervisors.

A nonunit grievance was settled satisfactorily at Step I with a revised Step I answer.

One exempt man was transferred to Manufacturing following the combination of Technical
Personnel Placement duties with those of the Manager, Personnel Practices.

HEALTH AND SAFETY

	<u>June</u>	<u>May</u>
Disabling Injuries	0	0
Serious Accidents	0	0
Medical Treatment Cases	49	52
Medical Treatment Frequency	4.19	4.23
Employee Hours of Exposure	116,813	122,793
Orientation Presentations	1	1
Attendance	8	4
Inspections	21	25
Suggestions Evaluated	2	7
Safety Meetings Attended	1	1
Number Present	26	22
Safety Instruction - Technical Graduates	4	0

Medical examinations for May totaled 82 which was 128.12% of quota.

Program

The Medical Treatment Frequency rate dropped slightly during June to 4.19. One Level #4 operation reported no injuries for the month, and there was a reduction in hand injuries reported from 65% of total in May to 45% of total in June.

During the week of June 23, award items were distributed to eligible Department personnel in recognition of achievement of the HAPO General Manager's Safety Award on May 2, 1958.

On June 4, 1958 the Manufacturing Operation completed 1,000,000 work hours without a Disabling Injury.

Through June 30, 1958 the Fuels Preparation Department completed 668 days without a Disabling Injury, for a total of 2,714,160 hours of exposure.

The monthly safety meeting for office personnel was held on June 18. S. G. Forbes was in charge of the meeting and presented a talk on home safety subjects, and a movie covering various phases of water safety.

Fuels Preparation Department personnel achieved 1st, 3d, and 5th place awards in the Washington State Safety Slogan Contest during the month of April, and 1st and 2d place awards for May.

Five awards are presented monthly throughout Washington industrial establishments. HAPO employees have won nine of the fifteen awards in the State for the first three months, five of them going to FPD participants.

Activities

Work activity during June included job contacts on the following items: Scrap metal disposal, eye protection, welding, traffic, cranes, flammable liquids, materials handling, ventilation, walks, barricades, elevators, painting, toxic chemicals, construction activity, safety meetings, respiratory protection, acid transfer, publicity, inspection, piping, HAPO Standards, tank work, home safety, accident investigation, suggestions, storage, lighting, ladders, medical services, mosquito control, protective clothing, solvents, gas manifolds, lubrication, power equipment, and guarding.

FIRE PREVENTION AND CIVIL DEFENSE

	<u>May</u>	<u>June</u>
Fires and Investigations	0	0
Fire Loss	0	0
Number of Inspections	29	53
Fire Surveys Completed	1	0
Hazard Reports Submitted	7	18
Orientation Attendance - Nonexempt	4	8
Orientation Attendance - Rotational Trainees	0	4
Supervisory Training in Fire Prevention & CD	8	12
Suggestions Evaluated	0	1

Two regulation draft-stop walls were installed in the attic of 3703 Building in conformance with Fire and Building Code requirements.

A quarterly inspection and operational test of all fire doors was satisfactory.

Washington State College was contacted for latest information on recommended chemicals for soil sterilization and weed control. Our present method considered best by WSC.

A contract was awarded on June 23 to design and install automatic sprinkler protection in the 313 Building addition. The completion date is December 22, 1958.

A contract was awarded on June 26 to expand the 300 Area water system to meet fire code requirements. Completion date is January 27, 1959.

A contract was awarded on June 26 to construct a metal warehouse, equipped with automatic sprinkler protection, to replace the code violating substandard 3722-A Warehouse. Completion date is October 31, 1958.

Due to conflicting codes approved for HAPO, established a procedure for spacing new and temporary buildings with respect to other property as a means for controlling fire exposure hazards.

Caused replacement of sprinkler heads removed from a laboratory test room in the 3706 Building to restore the fire protection rating to the property.

Obtained change in project proposal to include an additional fire hydrant on the west side of 313 Building to provide needed fire protection.

A fire prevention talk was given to 54 Maintenance employees at a safety meeting.

Other activities included the following subjects: test of CD warning system; exhaust system for ozone gas; ventilator for 3707-D boiler room; exhaust system for plastic spraying in drafting room; fire standards for cutting holes in caustic tank; static grounds for flammable liquid drums; sawdust removal ducts; modification of "No Smoking" rules in 3713; burning permits; weed control; engineering assistance; and fire code interpretations.

UNION RELATIONS

James Arbitration Case - On 6/16/58 an arbitration award was issued by Professor Paul L. Kleinsorge, Chairman of the arbitration panel, in the case involving the promotion of C. M. Pedersen from a Metal Handler to an Engineering Assistant. The issues as defined by the parties were as follows:

- (1) Was the movement of C. M. Pedersen from Metal Handler, Grade 11 to Engineering Assistant, Grade 12 a promotion within the meaning of Article XIII, Section 11 of the collective bargaining agreement?
- (2) Did D. L. Bianchi have any seniority rights as a Metal Handler under the union contract which were disregarded by the Company in terminating him on November 29, 1957? If so, does the Company owe him wages for the period between November 29, 1957 and March 10, 1958?

Bianchi was an employee who had been laid off as a result of the Company reinstating C. M. Pedersen as a Metal Handler. The arbitrator held as to issue number (1) that C. M. Pedersen was not promoted. The HAMTC panel member concurred with the Chairman whereas the Company member, W. M. Mathis, dissented. As to issue number (2) the arbitration panel unanimously held that Bianchi did not have seniority rights as a Metal Handler under the contract and that the Company, therefore, does not owe him any wages for the period November 29, 1957 to March 10, 1958.

The position of the Company has changed with respect to the P. A. Lynch arbitration case and the HAMTC has now been advised that the Company is agreeable to arbitration.

The Franklin arbitration case has been scheduled for August 13, 1958 in Richland.

A grievance was filed and processed at Step II in which the work of modifying some pallets was assigned to minor construction. The HAMTC indicated that this matter would become one of a series of court cases to be tried by the Council regarding an interpretation of the contract language involving contract-ing work out.

Grievance Statistics:

	<u>Unit</u>
Received this month	7
Received since 1/1/58	67
Step I	
Answer unsatisfactory	6
Answer satisfactory	1
Pending time limit to close	3
Settled this month	9

	<u>Unit</u>
Step II	
Discussed this month	8
Pending time limit to close	7
Settled this month	0
Pending arbitration	5

Subject of June Grievances:
(7 Total)

	<u>Mfg.</u> <u>Oper.</u>	<u>Eng.</u> <u>Oper.</u>	<u>Maint. &</u> <u>Power Oper.</u>	<u>Emp.</u> <u>Rel.</u>	<u>Fin.</u> <u>Oper.</u>
Jurisdiction	1		2		
Overtime	0		1		
Hours of Work	1		1		
Health & Safety	0		1		

Subject of Grievances for 1958:
(67 Total)

Jurisdiction	9	35
Seniority	0	2
Overtime	5	2
Absence	6	0
Unsafe Equipment	1	0
Transfer	1	0
Responsibility	2	0
Hours of Work	2	1
Health and Safety	0	1

Manager - Employee Relations

**DATE
FILMED
02/01/93**