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SUBJECT: POWER REACTOR FUEL REPROCESSING: MECHANICAL PHASE

TO: W. F. Schaffer, Jr.

FROM: B. B. Klima

ABSTRACT

The major events in the mechanical phase of the Power Reactor fuels reprocessing program during June were:

1. Feasibility of shearing of fuel elements without disassembly has been demonstrated in tests using porcelain-loaded prototype fuel elements.
2. Further work with the Manco shear was not deemed to be advisable since permission has been granted to use another shear for cutting UO_2 -loaded fuel elements.
3. Necessity to strip the windows in Building 3048, to sandblast, and repaint them has seriously disrupted occupancy of the cell by July 1. Start of installation probably will not be before August 1.
4. A cold SRE element should be received during July which will permit a direct look at the problems associated with processing of these irradiated fuel elements.
5. Concurrence with AEC, Atomics International, and ORNL people on the fabrication of a poisoned carrier was obtained and all criteria for the carrier were released and the design was completed.
6. A decision was made to install and use a 24-inch Ty-Sa-Man saw which is on hand and was originally purchased for use in the Segmenting Facility for the SRE reprocessing. This will be used instead of the multipurpose saw to allow more time to refine the design of that saw. The multipurpose saw will be installed for use in subsequent reprocessing programs.

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This report will chronicle the changes in status which occurred during the calendar month of June. A complete description of each item is not included and may be found in the parent report. The dates indicated on the schedule (see Table 1) have slipped since the last report primarily due to increase in scope of the work and postponement on all phases of the work except for the SRE preparations. Twenty-four new items have been added to the schedule.

The status of procurement is shown in Table 2. A total of 93 purchase requests have been turned in to the Purchasing Department. A total of \$199,261.83 has been committed by purchase orders, and a total of 56 purchase orders have been received for a total value of \$99,202.88.

A summary of the work orders is shown in Table 3. Three work orders have been added. The active work orders are for a total of \$390,995 with \$182,571 set aside for labor. Expenditures on these work orders through the month of May amount to a total of \$231,286.

Based on the cost figures available, the average man-days per day of labor expended on the project are shown in Fig. 1. Approximately 22 design people and 29 fabrication and installation craftsmen per day were assigned to this program during the month of May. It is estimated that the effort for the month of June will be approximately the same as in the month of May. This figure gives an index of the effort expended on this program during the last six months.

INTRODUCTION

Surveys have been made of the design, fabrication, and installation work requirements for the Mechanical Phase of the Power Reactor Fuel Reprocessing Program. This report is a review of the mechanical phase mainly covering the accomplishments during the month of June and gives the status of the various portions of the program at the end of June.

STATUS AND DESCRIPTION

Dejacketing Equipment

1. Mechanical Decladding Equipment. The mechanical decladding equipment, manufactured at Southern Machine Company, Chattanooga, Tennessee, was received at ORNL. The fabrication was found to be of poor quality and required a good bit of rework. The screw drive stripped on testing and a redesign of the screw will be made.

The decladder is being installed in Building 4505 for preliminary run in since the segmenting facility in Building 3048 is not now ready for use.

B. B. Klima, ORNL CF-59-1-19, "Power Reactor Fuels Reprocessing: Mechanical Phase," January 7, 1959; ORNL CF-59-1-151, "Power Reactor Fuels Reprocessing: Mechanical Phase," January 30, 1959; ORNL CF-59-1-151, Supplement 1, February 27, 1959; ORNL CF-59-1-151, Supplement 2, March 31, 1959; ORNL CF-59-5-35, "Power Reactor Fuels Reprocessing: Mechanical Phase," May 11, 1959; ORNL CF-59-5-35, Supplement 1, June 1, 1959.

Drawings: E-33511-15, 33517, 35228-30; D-33496, 33507-10, 33516, 33518-24, 35000, 35225-27, 35231-42, 35248-49.

1a. Basket Draining Station

The basket draining station has been fabricated and installed.
Drawing: D-35009.

1b. Drain Valve Operators

Air-operated, automatic drain valves will be integrated with the NaK disposal system (see Item 3). They have been purchased.

1c. Perforated Baskets

No change. Drawing: D-35010.

1d. Tools - Coil Unloader

This item will be integrated with Item 1e since a design for easier remote operation seemed to be desirable. Drawing: D-35010.

1e. Pneumatic Coil Winder and Unloader

Revision of the design of the coil winder to permit easier and more complete remotizing of the operation seems to be desirable. It will include a pneumatically operated drive.

1f. Fire Cover

Held in abeyance pending further tests.

1g. Auxiliary Decladder - Slug

During the month the test cutter, based on the English design, was finished and tested. The tests were partially satisfactory and the test unit was redesigned and is being rebuilt. Drawings: D-35002-03.

1h. Lifting Hook - Rod

The lifting hook for a single rod has been fabricated and is ready for test. Drawing: D-35008.

1i. Lifting Hook - Element

Design of the lifting hook for the SRE element is completed and the hook is being fabricated.

1j. Installation and Operational Procedure

The first draft of the installation and operating procedure has been prepared. A second draft will be required as the equipment is modified and further tested.

1k. SRE Process Analysis

The second draft of the SRE process analysis was prepared and it has shown that additional equipment and simplification seems to be desirable.

1m. NaK Troughs

Design of the troughs for the NaK has been completed.

1n. Cutter Locator

The cutter locators have been designed.

1o. Tool Board

A tool board for storage of the SRE tools must be designed.

1p. Tube Coiler Winder Socket

Cancelled.

1q. Depth Gauge for Jammed Slug Cutoff

Design of the depth gauge for jammed slug cutoff has been started.

1r. Auxiliary Decladder - Drainboard

This item will be combined with 1g.

1s. Fuel Rod Surge Rack

The location and design of the surge rack for the fuel rods is proceeding.

1t. Replacement Drive Screw and Components

The original drive screw was a threaded hollow tube with two keyways running its length. This design was difficult to fabricate and on further design was found to be unnecessary. A new simplified design has been set for a solid threaded rod without keyways. One will be built at ORNL and one will be purchased.

2. SRE Slug Washing Device. The SRE fuel slug washing device has been installed and is being tested. A slight design change is required to better distribute the steam and to slow down the rotation of the basket. Drawings: E-36375; D-36376-81.

2a. Eductor

Design of the eductor or condenser is proceeding.

2b. Filter

No change.

2c. Removable Screen

No change.

2d. Ess Hook for Lifting Baskets

No change.

3. NaK - Oil System. Over-all design and piping for the system is proceeding. An emergency dump provision is being designed into the system to possibly replace the fire cover for the decladder. Drawing: D-36238.

3a. Oil Supply

No change.

3c. NaK Reactor

The concept of reacting NaK with steam has been tested and it appears to be satisfactory. Design is continuing.

3d. Filter

Design of the filter is continuing.

3f. NaK Disposal

No change.

3g. Dump Tank

A dump tank capable of holding the oil from the mechanical decladder is being designed. It will be used in an emergency only and the oil and NaK can be metered through the disposal system from this tank.

3h. Metering Tank

A metering tank capable of holding 10 cubic inches of liquid will be installed under the mechanical decladder. This will permit draining of all of the NaK (6 cubic inches) from each tube plus 4 cubic inches of oil and transferring it to the NaK Reactor.

3i. Remote Operated Valves

Remotely operated Jamesberry ball valves will be used in most locations in the cell on this system. They are full flow and will have microswitch signals to indicate positive movement of the air cylinder.

3j. Mounting Rack

A mounting rack will be designed on which the NaK disposal system will be mounted.

4. Instruments - H₂ Detector. No change.

5. Finger Washers. The manipulators in Cell A will be dipped into the mineral oil in both the mechanical decladder and the auxillary decladder. To aid in decontamination processes and to avoid dipping of the oil over the cell the fingers must be cleaned of the oil.

5a. Finger Washer GM

The design of the finger washer for the GM hand has started.

5b. Finger Washer 8

The design of the finger washer for the number 8 master slave manipulator hand has started.

5c. Finger Washer Lee

The design of the finger washer for the Lee medium capacity manipulator hand has started but is held up pending drawings of the hand.

6. SRE Mechanical Disassembly Equipment. Provisions are being made to disassemble the SRE element mechanically using the manipulator and sawing the ends off using the Ty-Sa-Man saw.

6c. Hold Downs for Table

Due to a redesign of the carrier this item will be held in abeyance.

6d. Cotter Pin Puller

No change.

6e. Disassembly Wrench

No change.

6f. Spreader

No change.

6g. Tool Board for Tool Storage

No change.

6h. Cannister Cap Removal Device

The SRE fuel elements will be shipped inside a cannister. The cannister will be pushed into the cell and a device will be needed to remove the cap and to replace it after the element has been withdrawn.

6i. Fuel Element Puller

After the cannister cap has been removed a fuel element puller will be needed to reach into the cannister and pull the element out onto the traverse table for disassembly.

6j. Trough

A trough will be needed on the table to clamp the fuel element while it is being disassembled. The trough also will guide the element into position for disassembly.

6k. Dismantling Equipment Frame

A special equipment frame to be clamped on the traversing table will be required. The trough and other equipment will be mounted on the frame. The purpose of the frame is to permit unitized handling and disassembly of the equipment from the table for maintenance and for removal of the equipment after the test is completed.

7. Recanning. The cans and the canner have been received. Design of the remote handling facilities has started. Drawings: D-35244; C-35245-47.

7a. Can Storage Crate

The can storage crates are being fabricated by Brinkman in Dayton, Ohio. Drawings: D-36388.

7b. Can Grips - GM

Design of special can grips for the GM manipulator has been completed.

7c. Can Grips - Crane

No change.

7d. Recanning Table

No change.

8. Fuel Can Handling. Over-all design of the equipment and flowsheet for the transfer of cans from the storage crate to the carrier in the storage cell is essentially complete at this time. Drawing: D-36633.

8a. Can Grips - Lee

No change.

8b. Table

Design on the table has been completed.

8c. Loading Trough

No change.

8d. Special Plug

No change.. Drawing D-36633.

8e. Carrier

No change.

8f. Carrier Dolly

No change.

8g. Chute Modification

No change.

8h. Shutter

A shutter will be designed in front of the hole in the storage cell.

8i. Carrier Loading Station

Design of the carrier loading station has been completed. Drawing: D-36633.

8j. Hatch Covers Tunnel

The two ends of the tunnel in Cell A and the storage cell are now open. Hatch covers for the tunnel will be designed.

9. Auxiliary Decladder - Rod. No change.

Shearing Equipment

10. Manco Shears 4-1/2 in. The Manco shear has limited capacity and does not produce cuts comparable to the shear sets at Clearing or Birdsboro or at ORNL (see Item 19). This shear will be abandoned. Drawings: D-34787, 34794, 34807, 35474-75; C-34786.

10a. Cover

The fabrication of the Manco cover will be held in abeyance.
Drawing: D-35382-84.

10b. Feeder

Fabrication of the Manco feeder will be held in abeyance. Drawing: C-34784; D-35385-87.

10c. Can Adaptation

No change.

10d. Can

No change.

11. Oil Gear Unit. Installed. Drawing: D-35474-75.

12. Holding and Clamping Devices. Installed. Drawings: D-35367-69.

14. Material Transfer Continuous 4505. Design of the material transfer equipment has been completed. It uses a vibratory feeder. Drawings: D-36667-69.

15. Manco Shear 1-1/2 in. Installed

19. Shear Blade Die Set. Fabrication of the shear blade die sets was completed and tested. Drawings: D-35947-49, 36325-34.

19a. Hold Down Device

Test of the shear blade indicated that a changed hold down was desirable. Design has started.

21. Explosive Shear. Held in abeyance.

23. Production Prototype Shear. Fabrication of shear blades for Birdsboro Steel Foundry and Machine Company and Clearing was completed, and tests of these blades indicated that shearing was feasible. Tests were completed as originally planned, although additional tests are indicated as being quite desirable.

27. Enclosure (Jericho) 4505. Installed. Drawing: D-27239-42, 34791-93.
28. Top Cell 4A. Installed. Drawing: D-34796
31. Shear - Dissolver. No change.
39. Batch Dissolver 4505. Fabrication of the batch dissolver is completed. Drawings: D-25169-70, 34795, 34798-99; E-33760-61.
- 39a. Batch Dissolver 3048
No change. Drawing D-31647.
- 39b. Material Transfer Cell A-B
No change.
- 39c. Transfer Basket
No change.
40. Spiral Vibratory Continuous Leacher 4505. Installed. Drawings: E-34788; D-34789-90, 34798-99.
- 40a. Instrumentation
No change.
41. Inclined Drum Continuous Leacher 4505. . Design of the horizontal drum continuous leacher is complete. Drawings: E-27091; D-27092-99, 35520.
- 41a. Drive
No change.
- 41b. Feeder
No change.
42. Inclined Drum Continuous Leacher Model 2. No change. Drawings: E-35374; D-35375-79.
43. Rotating Slab Continuous Leacher. No change. Drawing: E-35476-77; D-35478-82.
47. Fuel Element Data Sheet. A revision to the data sheet was issued. Drawing: D-33754.
48. Prototype Fuels Mark I Mod. 1. Fifty of these have been fabricated by Continental Technical Services, Dayton at Ferrotherm Company in Cleveland. Drawing: D-30869.
- 48a. Mod. 2
Twenty-five of these elements have been fabricated by Continental Technical Services, Dayton, Ohio, at Ferrotherm Company in Cleveland. These fuel elements will be loaded with UO_2 at ORNL. Drawing: D-30869.

48b. Mod. 3

Twenty-five of these elements are being made by Continental Technical Services, Dayton at Ferrotherm in Cleveland. Drawing: D-33752.

48c. Mod. 4

No change. Drawing: D-33757.

48d. Mod. 5

No change. Drawing D-33758.

48e. Mod. 6

Six of these prototype fuel elements will be fabricated for use in saw test work. Drawing: D-33759.

49. Prototype Fuels Mark II. Fabrication of the prototype of the SRE fuel element is complete except for the wire wrap on the outside of the element. Drawing: D-33753, 34797.

50. Prototype Fuels Mark III. Thirty-six of these prototypes are being fabricated by Davidson Chemical Company, Erwin, Tennessee. Drawing: D-33755.

53. Special Fuel Element. Fabrication of fuel element at Y-12 has been completed. Drawing: D-30869, 34777.

Models

57. Fuel Element Models Consolidated Edison. A model of the Consolidated Edison fuel element has been fabricated.

57a. Nuclear Ship Savannah

Completed.

57b. Commonwealth Edison

Completed.

61. Segmenting Facility. Modifications to Cell A of the Segmenting Facility should be complete before installation of the delicate equipment such as the manipulators.

61a. Paint Cell Walls and Floor

The stainless steel walls and floor are drab and have been marked up badly. It has been suggested that the walls and floor should be painted white to make the cell lighter.

61b. Cell Roof Liner

The stainless steel liner for the roof has been eliminated so the roof will be either lined with glass fiber or white paint for easier decontamination.

61c. Move Filters

The air filters are now located where the production shear will be installed and they should be moved to the southeast corner of the cell.

61d. Air Inlet

The cell needs a controlled air inlet from the maintenance cubicle area and it needs to be designed and installed.

62. General Mills Manipulator. No change.

63. Model 8 Manipulators. A new boot has been tested and it was found to be satisfactory. They will be designed and installed on all of the No. 8 manipulators.

64. Lee Manipulator - Cell A. At this time the Lee installation in Cell A will be held in abeyance pending information on the simplified Argonne manipulator.

66. Lee Manipulator - Storage Cell. A strike has delayed delivery of the Lee manipulator.

67. Storage Cell - Bridge Crane. No change. Drawing: D-35004-07.

68. Periscope - Storage Cell. No change.

69. Zinc Bromide - Windows. The amercot of the windows had lifted and it was necessary to pull all of the glasses, sandblast the frames and reamer-coat the windows.

70. Tunnel Transfer Cart. The installation of the tunnel transfer cart has been started. Drawings: E-31286, 31290; D-31287-88, 31291-92.

71. Bridge Crane - Cell A. No change.

72. Bridge Cranes Cell B. Installed.

73. Traverse Table. Fabrication of the traverse table is continuing. Drawings: E-26590, 29495-97; D-26951, 29086, 29498.

74. Dolly Slip Carrier. The slip carrier dolly will be modified to lower the carrier and to provide increased leverage for movement. Drawings: D-31294-96.

75. Scrap Containers. The twelve scrap containers have been painted with numbers which can be more easily read. Drawing: D-31299.

76. Scrap Carrier. No change.. Drawings: D-31419-23.

77. Carrier Cell "B". No change. Drawings: D-32164-67.

78. SRE Fuel Element Carriers. A meeting was held June 2 and design of the fuel element carrier was approved. The carrier will be permanently poisoned with Boral. They will be modified at Paducah with the rotary inner portion to be made at ORNL. Drawings: E-25172-74, 29889, 35500; D-29890-97, 35507.

78a. Shipping Rack

A special shipping rack for use in railroad gondolas and at Atomics International is being designed.

78b. Bureau of Explosives Permit Drawing.

A special drawing of the carrier assembly to obtain a Bureau of Explosives permit has been started.

78c. Unloading Tool

A special unloading tool is being designed.

79. Lifting Tongs and Tools. Fabricated. Drawings: D-31411-18, 35352-54, 35357-58, 35363.

80. Tray and Support. Fabricated. Drawings: E-31407; D-31408-10.

81. Charging Door Closure. No change. Drawings: E-33040; D-31277, 31280, 33041-44.

82. Alignment Gauge. Completed. Drawing: D-32168.

84. Dust Collection System. No change.

84a. Cyclone

No change.

84b. Fan

No change.

85. Fire Extinguishment System. Design of the system installation has started.

85a. Cylinder Storage. Design for the cylinder storage has started.

86. Maintenance Cubicle. No change. Drawings: D-35952-53.

87. Opening Cell A - B. No change. Drawings: D-28434-35, 35317.

88. Cell Door Gasket. The inflated gasket ordered differed slightly from the one specified and the drawings will be changed accordingly. Drawing: D-36626.

88a. Shutter Lock Revision. No change.

88b. Shadow Shield. No change.

88c. Dead Man Switch. No change.

89. TV Auxiliary Viewing Cell A. The TV equipment to be purchased has been tested and appeared to be very satisfactory. The purchase order has been issued.

89a. Storage Cell

The installation of the TV in the storage cell will be held in abeyance.

89b. Camera Storage Cask

No change.

90a. Leacher Solution Sampler 4505

No change.

90b. Leacher Solution Sampler 3048

No change.

91. Lighting Plug Storage Cell. Modification of the three lighting plugs in the storage cell has been completed. Drawing: D-36382.

92. Utilities 3048. No change.

93. Electrical 3048. No change.

94. Abrasive Wheel Saw - 4505. Installed. Drawing: D-33244.

94a. Cut-off Saw Longitudinal Cut 4505. No change. Drawings: D-34810-21.

94b. Clamping Devices. No change. Drawing: D-34780.

94c. Particle Collection Device. No change. Drawing: D-34779.

95. Multi-Purpose Wheel Saw 3048. A multi-purpose wheel saw to be purchased is to have a hydraulic drive. Design of this saw is continuing. Drawings: E-26590; D-26591, 33048.

95a. Longitudinal Cut

No change.

95b. Clamping Devices

No change.

95c. Particle Collection Device

No change.

95d. Water Circulation System

No change.

96. Band Saw Study. A friction blade on the Duall Saw cut fuel elements in a satisfactory manner. An evaluation of bandsawing will be made.

97. Underwater Fuel Element Disassembly Equipment. A bandsaw, hacksaw, and underwater table will be designed.

98. SRE Wheel Saw. A 24-inch wheel saw originally purchased for the segmenting facility will be installed in Cell A for the SRE dismantling work.

98a. Clamping Devices

Clamping devices for the SRE wheel saw will need to be designed.

98b. Particle Collection System

A particle collection system for dry sawing of the SRE fuel element must be designed.

100. Fuel Element Separation Devices. No change. Drawings: D-35372-73

100a. Ferrule Splitters

Tested. Drawing: D-35365.

100b. Slabbing Knife

Tested. Drawings: D-34782-83.

100c. Microbraze Destruction

Tested. Drawing: C-34781.

100d. Impact Wedge

Tested. Drawings: C-34778-81; D-34775-76.

100e. Ferrule Stripper

Tested. Drawings: D-34822, 34824.

103. Dissolved Fuel - Containers and Carriers. Carriers for the dissolved fuels will be held in abeyance in preference to liquid transfer (see item 103a).

103a. Dissolved Fuel - Transfer

The cost estimate is completed for installation of two half-inch stainless steel lines in a 2-inch stainless outer tube from Bldg. 3048 to 3019. Design of the line has started.

104. Materials Handling Study - Conceptual. No change.

106. Layout Segmenting Facility 3048 - SRE. No change.

107. Layout Segmenting Facility 3048 - Shearing. No change. Drawing: E-33751; D-33750.

108. Layout Test Area 4505. No change.

B. B. Klima
Process Design Section
Chemical Technology Division

TABLE 1 - PRFR Mechanical Phase - Schedule

Notes: 1. Brackets indicate the period of time at which a phase of the work is to be completed.
2. Asterisks indicate phase has been completed.

ITEM NO.	ITEM	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	Engineer Assigned	REMARKS	Chem Tech Contact
1	Mechanical Decladding Equipment 3048		*Fabricate			Install					G. E. Pierce R. J. Emmert		G. A. West
1a	Basket Draining Station		*Design	*Fabricate	*Install								G. A. West
1b	Drain Valve Operators		See Item 3										
1c	Perforated Baskets		*Fabricate										G. A. West
1d	Tools-coil Unloader		See Item 1e										
1e	Pneumatic Coil Winder and Unloader				Design	Fabricate					R. J. Emmert		G. A. West
1f	Fire Cover		Hold in Abeyance										G. A. West
1g	Auxiliary Decladder - Slug			Test	Design	Fabricate					G. E. Pierce R. J. Emmert		G. A. West
1h	Lifting Hook - Rod	*Design	*Fabricate										G. A. West
1i	Lifting Hook - Element			*Design		Fabricate					G. E. Pierce		G. A. West
1j	Installation and Operational Procedure	*Analysis	*Draft		2nd Draft						R. J. Emmert		G. A. West
1k	SRE Process Analysis	*Draft	*2nd Draft		3rd Draft						R. M. Hill		G. A. West
1m	NaK Troughs		*Design		Fabricate	Install					G. E. Pierce		G. A. West
1n	Cutter Locator		*Design		Fabricate	Install					G. E. Pierce		G. A. West
1o	Tool Board					Design	Install				R. J. Emmert		G. A. West
1p	Tube Coiler Winder Socket		Cancelled										
1q	Depth Gauge for Jammed Slug Cut-off				Design	Fabricate	Install				R. J. Emmert		G. A. West
1r	Auxiliary Decladder Drainbrd.		See Item 1g										
1s	Fuel Rod Surge Rack				Design	Fabricate	Install				R. J. Emmert		G. A. West
1t	Replacement Drive Screw and Components			*Design	Install	Fabricate	Purchase				R. J. Emmert		G. A. West
2	SRE Slug Washing Device 4505	*Procure	*Install		Test						E. L. Hutto		G. A. West
	3048					Install	Cold Test				G. E. Pierce		G. A. West
2a	Eductor				Design	Install					E. L. Hutto		G. A. West
2b	Filter				Design	Install					E. L. Hutto		G. A. West
2c	Removable Screen				Design	Fabricate					E. L. Hutto		G. A. West

Table 1 - Continued

ITEM NO.	ITEM	APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			Engineer Assigned	REMARKS	Chem Tech Contact
2d	Ess Hood for Lifting Baskets										Design		Fabricate														E. L. Hutto		G. A. West		
3	NaK-Oil System 3048													Install			Cold Test										A. F. Zulliger A. W. Alexander		G. A. West		
3a	Oil Supply 3048						*Design								Install												G. E. Pierce		G. A. West		
3c	NaK Reactor						*Test			Design			Purchase		Install												A. W. Alexander		G. A. West		
3d	Filter									Design			Purchase		Install												A. W. Alexander		G. A. West		
3f	NaK Disposal												Design				Fabricate										A. W. Alexander		G. A. West		
3g	Dump Tank										Design		Fabricate		Install												A. W. Alexander		G. A. West		
3h	Metering Tank									Design		Fabricate		Install													A. W. Alexander		G. A. West		
3i	Remote Operated Valves										Design		Purchase		Install												A. W. Alexander		G. A. West		
3j	Mounting Rack										Design		Fabricate		Install												A. W. Alexander		G. A. West		
4	Instruments - H ₂ Detector											Design		Install													C. S. Lisser		W. F. Schaffer		
5a	Finger Washer - GM										Design		Fabricate		Install												W. R. Sanford		G. A. West		
5b	#8										Design		Fabricate		Install												W. R. Sanford		G. A. West		
5c	Lee										Design		Fabricate		Install												W. R. Sanford		G. A. West		
6	SRE Mechanical Disassy. Equip.																														
6c	Hold Downs for Table											Hold in Abeyance																			
6d	Cotter Pin Puller											Design	Fabricate														R. J. Emmert		G. A. West		
6e	Disassembly Wrench											Design	Fabricate														R. J. Emmert		G. A. West		
6f	Spreader											Design	Fabricate														R. J. Emmert		G. A. West		
6g	Tool Board for Tool Storage											Design	Fabricate		Install												R. J. Emmert		G. A. West		
6h	Cannister Cap Removal Device											Design	Fabricate		Install												A. F. Zulliger		G. A. West		
6i	Fuel Element Puller											Design	Fabricate		Install												A. F. Zulliger		G. A. West		
6j	Trough											Design	Fabricate		Install												A. F. Zulliger		G. A. West		
6k	Dismantling Equipment Frame											Design	Fabricate		Install												A. F. Zulliger		G. A. West		
7	Recanning			*Test			*Procure				Design	Fabricate	Install														R. C. Kinser R. E. Hoskins		G. A. West		

Table 1 - Continued

ITEM NO.	ITEM	APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			Engineer Assigned	REMARKS	Chem Tech Contact
7a	Can Storage Crate					*Design							Purchase																W. F. Schaffer		
7b	Can Grips - GM							*Design					Fabricate															R. C. Kinser R. E. Hoskins	G. A. West		
7c	Can Grips - Crane										Design		Fabricate															R. C. Kinser R. E. Hoskins	G. A. West		
7d	Recanning Table										Design		Fabricate															R. C. Kinser R. E. Hoskins	G. A. West		
8	Fuel Can Handling 3048									Design																		E. L. Hutto	W. F. Schaffer		
8a	Can Grips - Lee										Design		Fabricate															E. L. Hutto	W. F. Schaffer		
8b	Table							*Design				Fabricate		Install														G. E. Pierce	W. F. Schaffer		
8c	Loading Trough									Design		Fabricate		Install														E. L. Hutto	W. F. Schaffer		
8d	Special Plug					*Design						Fabricate		Install														G. E. Pierce	W. F. Schaffer		
8e	Carrier									Design				Modify														E. L. Hutto	W. F. Schaffer		
8f	Carrier Dolly									Design			Fabricate															E. L. Hutto	W. F. Schaffer		
8g	Chute Modification 3019												Design			Modify												E. L. Hutto	W. F. Schaffer		
8h	Shutter										Design		Fabricate															E. L. Hutto	W. F. Schaffer		
8i	Carrier Loading Station							*Design				Fabricate		Install														G. E. Pierce	W. F. Schaffer		
8j	Hatch Covers Tunnel										Design			Fabricate														M. G. Willey	W. F. Schaffer		
9	Auxiliary Decladder - Rod												Design		Fabricate		Test		Install									R. J. Emmert	G. A. West		
10	Manco Shears 4-1/2" - 4505										Installed																	--	G. K. Ellis		
10a	Cover										Held in Abeyance																		G. K. Ellis		
10b	Feeder										Held in Abeyance																		G. K. Ellis		
10c	Can Adaptation													Design		Fabricate		Install										M. I. Lundin	G. K. Ellis		
10d	Can										Design		Test			Purchase												M. I. Lundin	G. K. Ellis		
11	Oil Gear Unit										Installed																	--	G. K. Ellis		
12	Holding and Clamping Devices										Installed																		G. K. Ellis		
13																															
14	Material Transfer Continuous 4505					*Design							Fabricate		Install													G. E. Pierce	G. K. Ellis		

Table 1 - Continued

ITEM NO.	ITEM	APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			ENGINEER ASSIGNED	REMARKS	CHEM TECH CONTACT
15	Manco Shears 1-1/2"											Installed																	G. K. Ellis		
16																															
17																															
18																															
19	Shear Blade Die Set			*Design]				*Fabricate]				*Install]																	G. K. Ellis		
19a	Hold Down Device											Design]																A. M. Tripp	G. K. Ellis		
20																															
21	Explosive Shear											Held in abeyance																	W. F. Schaffer		
22																															
23	Production Prototype Shear											Development]																M. I. Lundin	C. D. Watson W. F. Schaffer		
24																															
25																															
26																															
27	Enclosure (Jericho) 4505											Installed																	G. K. Ellis		
28	Top Cell 4A											Installed																	G. K. Ellis		
29																															
30																															
31	Shear- Dissolver																												L. N. Howell	G. K. Ellis	
32																															
33																															
34																															
35																															
36																															
37																															
38																															

Table 1 (Continued)

ITEM NO.	ITEM	APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			ENGINEER ASSIGNED	REMARKS	CHEM TECH CONTACT
53	Special Fuel Elements						*Fabricate																				G. E. Pierce		G. K. Ellis		
54																															
55																															
56																															
57	Fuel Element Models - Con. Ed.						*Fabricate																				G. E. Pierce		G. K. Ellis		
57a	-Nuc. Ship. Sav.								Completed																				G. K. Ellis		
57b	-Com. Ed.								Completed																				G. K. Ellis		
58																															
59																															
60																															
61	Segmenting Facility 3048											Modification															G. E. Pierce		W. F. Schaffer		
61a	Paint Cell Walls and Floors									Specify		Paint															G. E. Pierce		W. F. Schaffer		
61b	Cell Roof Liner									Specify		Install															G. E. Pierce		W. F. Schaffer		
61c	Move Filters									Design		Install															A. B. Fuller		W. F. Schaffer		
61d	Air Inlet									Design		Install															A. B. Fuller		W. F. Schaffer		
62	General Mills Manipulator															Install											G. E. Pierce		W. F. Schaffer		
63	Model 8 Manipulators						*Test			Design		Fabricate				Install											G. E. Pierce		W. F. Schaffer		
																											C. H. Odom				
64	Lee Manipulator - Cell A																												W. F. Schaffer		
65																															
66	Lee Manipulator - Storage Cell									Design						Install											E. L. Hutto		W. F. Schaffer		
67	Storage Cell - Bridge Crane						*Design					Fabricate				Install											G. E. Pierce		W. F. Schaffer		
68	Periscope - Storage Cell											Design					Purchase										T. L. Trent		W. F. Schaffer		
69	Zinc Bromide - Windows									Repaint																	G. E. Pierce		W. F. Schaffer		
										Install																					
70	Tunnel Transfer Cart									Install																	G. E. Pierce		W. F. Schaffer		
71	Bridge Crane Cell A															Install											G. E. Pierce		W. F. Schaffer		

Table 1 - Continued

ITEM NO.	ITEM	APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			ENGINEER ASSIGNED	REMARKS	CHEM TECH CONTACT
72	Bridge Crane Cell B					*Install																							W. F. Schaffer		
73	Traverse Table								Fabricate					Install														G. E. Pierce	W. F. Schaffer		
74	Dolly Slip Carrier Modific.								Design		Modify																	T. L. Trent	W. F. Schaffer		
75	Scrap Containers					*Fabricate																							W. F. Schaffer		
76	Scrap Carrier									Fabricate																		G. E. Pierce	W. F. Schaffer		
77	Carrier Cell B													Fabricate														G. E. Pierce	W. F. Schaffer		
78	SRE Fuel Element Carriers					*Criteria			*Design		Fabricate First			Fabricate Second														G. E. Pierce	W. F. Schaffer		
78a	Shipping Racks								Design				Fabricate															R. L. Bragg	W. F. Schaffer		
78b	Bureau of Explosives Permit Drawing								Design																			R. L. Bragg	W. F. Schaffer		
78c	Unloading Tool									Design		Fabricate																R. L. Bragg	W. F. Schaffer		
79	Lifting Tongs and Tools									Fabricated																			W. F. Schaffer		
80	Tray and Supports									Fabricated																			W. F. Schaffer		
81	Charging Door Closure									Fabricate			Install															G. E. Pierce	W. F. Schaffer		
82	Alignment Gauge					*Fabricate																							W. F. Schaffer		
83																															
84	Dust Collection System									Design				Purchase															A. B. Fuller	G. K. Ellis W. F. Schaffer	
84a	Cyclone									Specification				Purchase															A. B. Fuller	G. K. Ellis W. F. Schaffer	
84b	Fan									Specification				Purchase															A. B. Fuller	G. K. Ellis W. F. Schaffer	
85	Fire Extinguishment System									Design			Install																A. B. Fuller	W. F. Schaffer	
85a	Cylinder Storage									Design			Install																A. B. Fuller	W. F. Schaffer	
86	Maintenance Cubicle													Design							Install								H. M. Glen	O. Freeland W. F. Schaffer	
87	Opening Cell A-B													Install															G. E. Pierce	W. F. Schaffer	
88	Cell Door Gasket					*Design				Purchase		Install																	G. E. Pierce	W. F. Schaffer	
88a	Shutter Lock Revision										Design		Fabricate																T. L. Trent	W. F. Schaffer	
88b	Shadow Shield										Design			Fabricate			Install												T. L. Trent	W. F. Schaffer	

Table 1 - Continued

ITEM NO.	ITEM	APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			Engineer Assigned	REMARKS	Chem Tech Contact
88c	Dead Man Switch									*Design						Install												T. L. Trent		W. F. Schaffer	
89	T.V. Auxiliary Viewing, Cell A														Design		Install											T. L. Trent		W. F. Schaffer	
89a	Storage Cell																												W. F. Schaffer		
89b	Camera Storage Cask															Design			Fabricate		Install							T. L. Trent		W. F. Schaffer	
90a	Leacher Solution Sampler 4505															Design			Fabricate			Install						C. H. Odom		G. K. Ellis	
90b	Leacher Solution Sampler 3048																			Design								C. H. Odom		W. F. Schaffer	
91	Lighting Plug Storage Cell			*Design							*Fabricate																		W. F. Schaffer		
92	Utilities 3048												Design				Install											W. R. Sanford		W. F. Schaffer	
93	Electrical 3048												Design					Install										C. D. Stout		W. F. Schaffer	
94	Abrasive Wheel Saw 4505															Installed													G. A. West		
94a	Longitudinal Cut				*Design											Install												G. E. Pierce		G. A. West	
94b	Clamping Devices												Design				Fabricate		Install									D. C. Watkin		G. A. West	
94c	Particle Collection Device				*Design																							G. E. Pierce		G. A. West	
95	Multipurpose Wheel Saw 3048															Purchase						Install						A. F. Zulliger		W. F. Schaffer	
95a	Longitudinal Cut																	Design		Fabricate		Install						A. F. Zulliger		W. F. Schaffer	
95b	Clamping Devices																	Design		Fabricate			Install					D. C. Watkin		W. F. Schaffer	
95c	Particle Collection Device																	Design		Fabricate			Install					A. B. Fuller		W. F. Schaffer	
95d	Water Circulation System																	Design		Fabricate			Install					A. B. Fuller		G. A. West	
96	Band Saw Study												Study															L. N. Howell		W. F. Schaffer	
97	Underwater Fuel Element Disassembly Equipment															Design			Fabricate									L. N. Howell		C. D. Watson	
98	SRE Wheel Saw															Design				Install								A. F. Zulliger		W. F. Schaffer	
98a	Clamping Devices															Design			Fabricate			Install						A. F. Zulliger		W. F. Schaffer	
98b	Particle Collection Device															Design			Fabricate			Install						A. B. Fuller A. F. Zulliger		W. F. Schaffer	
99																															
100	Fuel Element Separation Device																											L. N. Howell		G. K. Ellis	

PROCUREMENT SUMMARY

Table 2 - PRFR - Mechanical Phase

ITEM NO.	ITEM	WORK ORDER	PURCHASE REQUEST	PURCHASE REQUISITION	PURCHASE ORDER	PROMISED DELIVERY	COST	RECEIVED	REMARKS
1	Mechanical Decladding Equipment	A-70132-11	11/18/58	D-161062 11/20/58	93X16370 12/24/58	4/30/59	\$ 9,861.50	6/1/59	Southern Machine Co., Chattanooga, Tenn.
2	Prototype Fuel Elements Mark I, Mod. 1, 50 ea.	A-70132-42	12/23/58	D-161064 12/23/58	93X16396 2/4/59	6/20/59	24,293.00	6/30/59	Dayton, Ohio Continental Technical Service, Inc.
3	Prototype Fuel Elements Mark I, Mod. 2, 25 ea.	A-70132-42	12/23/58	D-161064 12/23/58	93X16396 2/4/59	6/20/59	10,900.00		Continental Technical Service, Inc. Dayton, Ohio Partial Shipment 6/24/59
4	Prototype Fuel Elements, Mark I, Mod. 3, 25 ea.	A-70132-42	1/7/59	D-161066 1/7/59	93X16396 2/4/59	6/20/59	13,300.00	6/30/59	Continental Technical Service, Inc. Dayton, Ohio
5	Manco Shear Blade for Manco MC125DA	A-70132-41	12/23/58	D-78293 12/26/58	41X37063 12/29/58	1/28/59	1,075.00	2/2/59	Manco Manufacturing Co., Bradley, Ill.
6	Fuel Element Power Shear Testing	A-70132-43	12/30/58	D-161065 12/30/58	93X44534 3/18/59	6/30/59	10,283.00	6/30/59	Clearing, Div. of U.S. Ind., Inc. Chicago 30, Ill.
7	Fuel Element Power Shear - Testing	A-70132-43	12/30/58	D-161065 12/30/58	93X44533 3/18/59	6/30/59	11,000.00	6/30/59	Birdsboro Steel Foundry and Machine Co. Birdsboro, Pennsylvania
8	Organic Blanket Liquids for Test	A-70132-41	1/16/59	D-161068 1/19/59	OR59-1283 2/20/59	3/1/59	7.15	4/6/59	Union Carbide Chem. Co. New York, New York
9	Porcelain Rod 0.40 in. o.d. x 6" (8000)	A-70132-11	1/19/59	D-78337 1/20/59	54X41902 1/22/59	1/30/59	240.00	2/27/59	Clowes Ceramic Corp., Chattanooga, Tenn.
10	Seamless Stainless Tubing, 304, 0.227" x 0.197"	A-70132-42	1/21/59	D-161075 1/22/59	70X42333 1/29/59	1/30/59	95.52	2/27/59	J. Bishop and Co. Platinum Works Malvern, Pennsylvania
11	Filter Discs Poroloy	A-70132-41	1/27/59	D-161077 1/28/59	26X39578 2/2/59	2/2/59	368.10	2/9/59	Bendix Filter Div. Madison Hghts, Michigan
12	Aluminum Cans and Canner	A-70132-41	1/28/59	D-161079 1/28/59	93X44541 4/2/59	3/13/59	1,750.50		George D. Ellis and Sons, Inc. Partial Shipment Philadelphia, Pennsylvania 5/23/59
13	Prototype Fuel Elements Mk III, 36 ea.	A-70132-42	1/28/59	D-161080 1/29/59	93X44540 4/1/59	6/20/59	15,776.00		Davidson Chem. Division Erwin, Tennessee
14	Medium Capacity Rectilinear Manipulator	A-92456-05	1/28/59	D-161081 1/29/59	22X46724 3/3/59	7/30/59	8,250.00		Lee Associates, Inc., Boise, Idaho
15	Dissolver Installation, Heat Exchr-Stainless Steel	A-70132-41	2/2/59	D-161034 2/2/59	94X39093 2/6/59	2/24/59	1,352.00	3/2/59	Manning & Lewis Engineering Co. Newark 4, New Jersey
16	S and t Butylbenzene	A-70132-41	2/5/59	D-161088 2/5/59	14X43136 2/11/59	3/4/59	105.00	2/17/59	Phillips Petroleum Co. New York 5, New York
17	Vibratory Cont. Diss. - Port Hole Seals	A-70132-41	2/5/59	D-161089 2/5/59	55X45450 2/24/59	3/6/59	22.32	3/17/59	Halogen Insulator and Seal Corp. Franklin Park, Ill.

PROCUREMENT SUMMARY

Table 2 - PRFR - Mechanical Phase (continued)

ITEM NO.	ITEM	WORK ORDER	PURCHASE REQUEST	PURCHASE REQUISITION	PURCHASE ORDER	PROMISED DELIVERY	COST	RECEIVED	REMARKS
18	Vibratory Cont. Dissolver - Windows	A-70132-41	2/5/59	D-161090 2/5/59	21X46234 2/27/59	3/6/59	\$ 43.20	3/6/59	Cincinnati Gasket Packing & Mfr., Inc. Cincinnati, Ohio
19	Vibratory Cont. Dissolver - Diaphragm	A-70132-41	2/6/59	D-161091 2/9/59	96X47223 3/10/59	3/6/59	222.80	3/13/59	American Durafilm Co. Newton Lower Falls, Mass.
20	Vibratory Cont. Dissolver - Diaphragm Clamp	A-70132-41	2/6/59	D-161092 2/9/59	94X44722 2/20/59	3/6/59	32.10	3/2/59	Breeze Corporation, Inc. Union, N. J.
21	Oil Gear Pump - Engineer Advisor	A-70132-41	2/11/59	D-161093 2/11/59	76X42531 2/12/59	2/12/59	198.95	2/13/59	Oilgear Co., Milwaukee, Wis.
22	Oil Gear Pump - Modification Parts	A-70132-41	2/12/59	D-161097 2/13/59	45X43536 2/12/59	2/18/59	1,029.00	2/17/59	Oilgear Co., Milwaukee, Wis.
23	Dissolver Installation - Eco Pumps	A-70132-41	2/12/59	D-161098 2/13/59	45X43565 2/20/59	3/4/59	852.00	3/3/59	James E. Watson and Co. Marietta, Ga.
24	Prototype Fuel Elements - 3/16"-304SS Tubing	A-70132-17	2/12/59	A-18675 2/12/59	70X42396 2/12/59	2/13/59	77.52	2/6/59	Industrial Piping Supply Co. Knoxville, Tennessee
25	HPM 200 Ton Press	A-70132-41	2/17/59	D-161101 2/18/59		3/18/59	CANCELLED		
26	Jericho - Asbestos Safety Curtain	A-70132-14	2/17/59	D-161103 2/18/59	28X47823 3/18/59	3/6/59	117.66	3/25/59	Johns Manville Sales Corp. Atlanta, Georgia
27	Vibratory Cont. Dissolver - Hydraulic Control	A-70132-26	2/18/59	D-161107 2/19/59	71X41687 2/25/59	3/2/59	141.45	3/2/59	Sperry Products, Inc. Danbury, Conn.
28	Dissolver Hydraulic Gauge Hi Pressure	A-70132-41	2/23/59	D-161110 2/24/59	58X45646 2/25/59	3/2/59	37.44	2/26/59	Tennessee Belting & Supply, Inc. Knoxville, Tenn.
29	Shear Die Set	A-70132-28	3/5/59	D-161114 3/6/59	23X47767 3/17/59	4/6/59	1,153.35	4/3/59	Lempco Industrial, Inc. Bedford, Ohio
30	SRE Decladding. Mineral Oil Sp. Gr. 0.877	A-70132-41	3/5/59	D-161115 3/6/59	33X48373 3/26/59	4/30/59	57.15	3/31/59	Esso Standard Oil Co. Knoxville, Tenn.
31	SRE Decladding. Mineral Oil Sp. Gr. 0.832	A-70132-41	3/5/59	D-161116 3/6/59	33X48348 3/18/59	4/30/59	26.20	4/2/59	Mineral Oil Refining Co. Dickinson, Texas
32	Mech. Decl. Eq. - Plugging Switch, Starters, Etc.	A-70132-41	3/9/59	D-161121 3/10/59	53X48469 3/20/59	4/27/59	337.81	5/5/59	Allen Bradley Co., Knoxville, Tenn.
33	Mech. Decl. Eq. - Transformer	A-70132-41	3/10/59	D-161122 3/11/59	53X48459 3/19/59	4/20/59	16.68	3/24/59	Dongan Electric Mfr. Co. Detroit, Mich.
34	Mech. Decl. Eq. - Junction Box	A-70132-41	3/10/59	D-161123 3/11/59	74X49411 3/17/59	4/20/59	52.47	4/7/59	Stokes Electric Co. Knoxville, Tenn.

PROCUREMENT SUMMARY

Table 2 - PRFR - Mechanical Phase (continued)

ITEM NO.	ITEM	WORK ORDER	PURCHASE REQUEST	PURCHASE REQUISITION	PURCHASE ORDER	PROMISED DELIVERY	COST	RECEIVED	REMARKS
35	Mech. Decl. Eq. - Roll Drive Gearmotor	A-70132-41	3/10/59	D-161124 3/11/59	53X48466 3/19/59	4/20/59	\$ 67.08	4/22/59	Janette Electric Co. Morton Grove, Illinois
36	Mech. Decl. Eq. - Two Speed Motor	A-70132-41	3/10/59	D-161125 3/11/59	53X48458 3/19/59	4/30/59	96.08	5/12/59	Howell Electric Motors Co. Knoxville, Tenn.
37	Uranium Oxide Pellets - (130,000)	A-70132-42	3/10/59	A-76504 4/16/59	93X44579 5/13/59	6/15 thru 8/17/59	\$54,645.00		Davidson Chemical Co., Erwin, Tennessee
38	Fuel Element Model - 999 ft. AL Tubing 0.304" OD	A-70132-41	3/13/59	A-76478 3/13/59	77X48641 3/16/59	4/25/59	169.21	5/4/59	Aluminum Company of America Chattanooga, Tenn.
39	SRE Slug Washer and Two Baskets	A-70132-41	3/13/59	A-76479 3/13/59	70X51504 4/2/59	5/1/59	1,780.00	5/5/59	Brinkman Tool and Die, Inc. Dayton, Ohio
40	Mech. Decl. Eq. - Terminal Block	A-70132-41	3/10/59	D-161123 3/11/59	74X49410 3/17/59	4/20/59	15.32	4/1/59	Graybar Electric Co. Knoxville, Tenn.
41	Shear Die Set Plus Blades	A-70132-43	3/19/59	A-76481 3/20/59	93X44596 6/10/59	6/24/59	3,370.00	6/30/59	Clearing Machine Co. Chicago, Ill.
42	Shear Die Set Plus Blades	A-70132-43	3/19/59	A-76482 3/20/59	93X44574 5/4/59	5/22/59	1,484.86	6/29/59	Birdsboro Steel Foundry & Mch. Co. Birdsboro, Pa.
43	Multipurpose Saw	A-92408-02	3/16/59	A-76480 3/16/59	55X53807 4/16/59	7/10/59	7,850.00		Ty-Sa-Man Machine Co. Knoxville, Tenn.
44	Dissolver Basket Poromesh	A-70132-41	3/30/59	A-76490 3/30/59	26X48794 4/10/59	5/29/59	55.00	6/30/59	Bendix Filter Div., Madison Heights, Mich.
45	Oil Gear Pump - Foot Valve	A-70132-41	4/3/59	A-76499 4/6/59	45X51454 4/10/59	5/1/59	91.00	4/17/59	Oilgear Co., Milwaukee, Wis.
46	Dissolvers - Poroloy	A-70132-41	4/16/59	A-76503 4/16/59	26X56649 5/18/59	8/10/59	315.40		Bendix Filter Div. Madison Hts., Michigan
47	Fire Extinguisher System	A-92456-05	4/10/59	A-76501 4/10/59	45X56830 5/14/59	6/1/59	5,755.00		Walter Kidde and Co., Inc. Atlanta, Ga. Partial Shipment 6/15/59
48	Omniscope Periscope	A-92408-02	4/20/59	A-76505 4/21/59	14X58209 5/20/59	6/20/59	925.00		Lerma Engineering Corp. Northampton, Mass.
49	Storage Cell Crane - Pulleys - Collars	A-70132-41	4/20/59	A-76506 4/21/59	63B34888 5/23/59 LRX - 32	5/20/59	11.13	5/1/59	Hoyt N. Payne Co. Knoxville, Tenn.
50	Storage Cell Crane - Bearings	A-70132-41	4/20/59	A-76507 4/21/59	63B27900 4/23/59 LRX - 78	5/20/59	7.42	5/4/59	Dixie Bearings, Inc. Knoxville, Tenn.
51	Storage Cell Crane - Electro Clutch	A-70132-41	4/20/59	A-76508 4/21/59	53X55214 4/30/59	6/15/59	238.00		ITE Circuit Breaker Co. Atlanta, Ga.

PROCUREMENT SUMMARY

Table 2 - PRFR - Mechanical Phase (continued)

ITEM NO.	ITEM	WORK ORDER	PURCHASE REQUEST	PURCHASE REQUISITION	PURCHASE ORDER	PROMISED DELIVERY	COST	RECEIVED	REMARKS
52	Storage Cell Crane - Sprocket	A-70132-41	4/20/59	A-76509 4/21/59	63x49884 5/1/59	5/20/59	\$ 2.40	5/4/59	Power Drives Inc., Knoxville, Tennessee
53	Storage Cell Crane - Cast Iron Drum	A-70132-41	4/20/59	A-76510 4/21/59	27x54348 5/7/59	5/20/59	46.00	5/22/59	Stephens-Adamson Mfg. Co., Aurora, Ill.
54	SRE Carrier - Stainless Steel	A-92408-02	4/20/59	A-76512 4/21/59	73x55928 5/11/59	6/20/59	168.00	6/3/59	Ray Miller Co. South Charleston, W. Va.
55	SRE Carrier - Boral	A-92408-02	4/20/59	A-76511 4/21/59	73x55910 5/4/59	5/20/59	750.00	5/13/59	Brooks and Perkins Detroit, Michigan
56	SRE Carrier - Stainless Steel Channel	A-92408-02	4/20/59	A-76513 4/22/59	73x55938 5/14/59	5/20/59	16.94	5/19/59	Youngstown Mfg. Inc., Atlanta, Ga.
57	Prototype Fuel Element Mk 1 - Mod 6 - 6 ea	A-70132-43	5/4/59	A-76515 5/4/59		6/1/59			
58	Opening Cell A - B -, Doors Gastight - 2 ea	A-70132-41	5/6/59	A-76516 5/6/59	21x59434 6/4/59	6/30/59	950.00		Overbeke-Kain Co., Bedford, Ohio
59	Lee Manipulator - Hand Assy	A-70132-41	5/8/59	A-76517 5/8/59		6/1/59			
60	Vibratory Dissolver - Mechanic Advisor	A-70132-26	5/8/59	A-76518 5/8/59	76x52308 5/11/59	5/11/59			Syntron Company Homer City, Penna.
61	SRE Carrier - Stainless Steel	A-92408-02	4/20/59	A-76512 4/21/59	73x55927 5/11/59	7/8/59	443.19		Slip-Not Belting Co. Kingsport, Tenn.
62	Cell Door - Inflatable Strip Seal	A-70132-41	5/14/59	A-76519 5/14/59	96x60263 6/25/59	7/15/59	350.00		Kirkhill Rubber Co., Brea, Calif.
63	SRE Mech. Decl. Eq. - Valves Jamesbury	A-70132-11	5/14/59	A-76520 5/14/59	35X54788 5/22/59	6/15/59	358.02	6/12/59	Ind. Piping Supply Co., Knoxville, Tenn.
64	Can Storage Baskets - 45 ea	A-70132-41	5/15/59	A-76522 5/15/59	70X55895 6/1/59	7/1/59	1,575.00	6/30/59	Brinkman Tool & Die Co., Dayton, Ohio
65	Horizontal Continuous Dissolver - Silicon Carbide Bearings	A-70132-26	5/20/59	A-95364 5/20/59	52X60565	8/3/59 7/15/59	300.00		Carborundum Corporation
66	Vibratory Dissolver - Controls	A-70132-26	5/15/59	A-76523 5/15/59	22x54948 5/18/59	5/18/59	71.05	5/21/59	Syntron Company Homer City, Penna.
67	Control Valve	A-70132-41	5/12/59	A-76524 5/12/59	59X57394 5/27/59	6/26/59	160.75	6/4/59	Redjacket Valve Co., Carnegie, Pa.
68	Cans - Steel	A-70132-41	5/14/59	A-76525 5/14/59		6/30/59			

PROCUREMENT SUMMARY

Table 2 - PRFR- Mechanical Phase (continued)

ITEM NO.	ITEM	Work Order	PURCHASE REQUEST	PURCHASE REQUISITION	PURCHASE ORDER	PROMISED DELIVERY	COST	RECEIVED	REMARKS
69	Manco Shear Housing - Valve	A-70132-41	5/19/59	A-76526 5/19/59					
70	SRE Fuel Element Mock-ups - Wire	A-70132-11	5/28/59	A-95738 5/28/59	74X58456	6/8/59	8.08	6/8/59	Malin Corporation
71	Batch Dissolver - Flange and Gaskets	A-70132-25	5/28/59	A-95741 5/28/59	96X60232	7/17/59	117.34		Melrath Supply & Gasket Co.
72	SRE Carrier - Tool Steel	A-92408-02	5/28/59	A-76527 5/28/59	73X55997 6/5/59	6/19/59	28.98	6/17/59	Crucible Steel Co., of America, Chamblee, Ga.
73	Fuel Elements for Test - 5 ea (180 Rods)	A-70132-42	5/28/59	D-161064 5/28/59	93X16396 6/3/59	6/17/59	1,695.00	6/30/59	Continental Technical Services, Inc. Dayton, Ohio
74	Seg. Fac. - Windows - Amercoat	A-92456-02	6/5/59	A-95437 6/5/59	29X59348	6/9/59	120.06	6/30/59	Southeastern, Inc.
75	Seg. Fac. - Door - Ratiomotor	A-92456-02	6/5/59	A-95441 6/5/59	53X60607	6/29/59	296.00		H. N. Payne Co., Knoxville, Tenn.
76	Seg. Facility - Door - Chain & Sprockets	A-92456-02	6/8/59	A-95759 6/18/59	63B34888 LRX 48	6/19/59	28.98	6/11/59	Hoyt N. Payne Co., Knoxville, Tenn.
77	Seg. Facility - Door - Ratiomotor	A-92456-02	6/8/59	A-95760 6/8/59		6/19/59			
78	SRE Carrier - 1-1/4" Plate	A-92408-02	6/15/59	D-172031 6/15/59	73P60758 6/25/59	7/6/59	1,416.11		G.O. Carlson, Inc., Thorndale, Pa.
79	SRE Carrier - 19-3/8" and 4-1/2" Tubing	A-92408-02	6/15/59	D-172032 6/15/59		7/15/59			
80	SRE Carrier - 5/8" Plate	A-92408-02	6/16/59	D-172033 6/16/59		7/15/59			
81	Seg. Fac. Manipulators - Wrist Housings & Cams	A-92455-02	6/19/59	A-95640 6/19/59		7/1/59			
82	Tunnel Transfer Cart - Limit Switches	A-92456-02	6/24/59	A-95683 6/24/59		7/6/59			
83	SRE Carrier - Bearings	A-92408-02	6/17/59	A-76529 6/17/59	63B27900 LRX 116 6/19/59	7/30/59	25.02	6/24/59	Dixie Bearings, Inc., Knoxville, Tenn.
84	SRE-NaK Decomposer - Auto. Valves	A-70132-41	6/22/59	A-76531 6/22/59		7/31/59			
85	SRE-NaK Decomposer - Mixing Pumps	A-70132-41	6/22/59	A-76532 6/22/59		7/31/59			

PROCUREMENT SUMMARY

Table 2 - PRFR - Mechanical Phase (Continued)

[illegible]

TABLE 3 - WORK ORDER STATUS

MECHANICAL PROCESSING

Work Order Number	Description	Cost Estimate		Expenditures as of 6/1/59	
		Total	Labor	Total	Labor
A 01202-11	Liquid transfer line cost estimate	\$ 755	\$ 600	-	-
A 31059-11	Closed	-	-	\$722	\$ 428
A 41988-11	Underwater sawing - Design	8,320	6,600	-	-
A 70132-11	Equipment for decladding SRE fuel elements, fabri- cation and installation	18,500	10,000	12,292	5,910
A 70132-12	Cancelled	-	-	10,261	6,146
A 70132-13	Cancelled	-	-	117	67
A 70132-14	Experimental facility Bldg. 4505 (Jericho) fabrication, alterations, installation, testing	15,000	7,100	18,346	8,316
A 70132-15	Models of prototype fuels	5,700	3,150	5,977	3,336
A 70132-16	Closed	-	-	2,663	732
A 70132-17	Test assemblies, Cook's Shop	18,020	6,800	9,400	4,964
A 70132-18	Experimental facilities Bldg. 4505 (Jericho), design	10,920	6,600	7,654	4,633
A 70132-19	Special cell equipment and prototype equipment layout for Segmenting Cell, Bldg. 3048, design	20,920	12,600	20,382	12,350
A 70132-21	Continuous dissolver, design	15,080	9,080	13,632	8,183
A 70132-22	Fuel element separation device, design	5,100	3,000	1,438	869
A 70132-23	Shearing device and auxiliaries, design	8,240	4,950	2,622	1,589

TABLE 3 - WORK ORDER STATUS (CONTINUED)

MECHANICAL PROCESSING

Work Order Number	Description	Cost Estimate		Expenditures as of 6/1/59	
		Total	Labor	Total	Labor
A 70132-25	Batch dissolver, fabri- cation and installation	\$12,000	\$ 5,450	\$12,847	\$ 4,380
A 70132-26	Continuous dissolver, fabrication and instal- lation	25,754	11,065	25,095	9,149
A 70132-27	Closed	-	-	55	0
A 70132-28	Shearing devices and auxiliaries, modification and installation	14,600	7,000	20,962	9,805
A 70132-29	Saws, modification and installation	3,000	1,600	807	391
A 70132-30	Saws, design	7,470	4,480	9,888	5,992
A 70132-31	Mechanical decladding equipment and auxiliaries, design	15,590	9,380	14,218	8,535
A 70132-32	Dissolver Instrumentation, Design	2,935	1,600	622	377
A 70132-33	Dissolver Instrumentation, Procurement and Installa- tion	13,270	2,000	3,803	277
A 92408-02	Carriers, fabrication and/or alterations	40,000	12,100	2,431	946
A 92408-05	Carriers, Design	11,020	6,600	5,699	4,554
A 92456-02	Segmenting Facility, procure, fabricate, install	58,500	26,000	27,802	10,927
A 92456-04	Segmenting Facility Design	14,556	11,556	1,452	559
A 92456-05	Segmenting Facility, purchase and installation	35,000	8,000	0	0

TABLE 3 - WORK ORDER STATUS (CONTINUED)

MECHANICAL PROCESSING

Work Order Number	Description	Cost Estimate		Expenditures as of 6/1/59	
		Total	Labor	Total	Labor
A 92832-01	Remote Viewing, Engr. Design	770	600	0	0
A 92832-02	Remote Viewing, Instr. Design	1,330	1,000	99	79
A 92832-03	Remote Viewing, Procurement and installation	7,645	3,000	0	0
A 92900-01	Liquid Transfer Lines, Design 3019-3026	1,000	660	0	0
Aggregate		\$390,995	\$182,571	\$231,286	\$113,494

TABLE 3 - WORK ORDER STATUS (CONTINUED)

MECHANICAL PROCESSING

Work Order Number	Description	Cost Estimate		Expenditures as of 6/1/59	
		Total	Labor	Total	Labor
A 92832-01	Remote Viewing, Engr. Design	770	600	0	0
A 92832-02	Remote Viewing, Instr. Design	1,330	1,000	99	79
A 92832-03	Remote Viewing, Procurement and installation	7,645	3,000	0	0
A 92900-01	Liquid Transfer Lines, Design 3019-3026	1,000	660	0	0
Aggregate		\$390,995	\$182,571	\$231,286	\$113,494

FIG. 1 INDEX OF EFFORT EXPENDED - AVERAGE MANDAYS LABOR PER DAY

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3. J. B. Adams
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10. F. R. Bruce
11. G. A. Cristy
12. F. L. Culler
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14. W. K. Eister
15. G. K. Ellis
16. D. E. Ferguson
17. O. Freeland
18. C. A. Fritts
19. R. M. Fuller
20. W. R. Gall
21. H. E. Goeller
22. A. T. Gresky
23. L. N. Howell
24. K. E. Jamison
25. J. C. Lauderdale
26. R. B. Lindauer
27. C. S. Lisser

28-29. M. I. Lundin
30. G. Morris
31. E. W. Parrish
32. G. E. Pierce
33. F. Ring
34. W. R. Sanford
35. G. W. Sell
36. J. C. Suddath
37. J. A. Swartout
38. E. H. Taylor
39. H. A. Todd
40. T. L. Trent
41. W. E. Unger
42. C. D. Watson
43. G. A. West
44. C. E. Winters
45. E. J. Witkowski
46. F. W. Wuest
47. A. F. Zulliger
48-49. B. B. Klima
50. ORNL-RC
51. M. J. Skinner
52-61. Laboratory Records
62-63. Central Research
Library
64. Document Reference
Section
65-79. TISE-AEC
80. O.T. Roth, Washington

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