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MINUTES OF TECHNICAL DIVISION STEERING COMMITTEE MEETING
DECEMBER 10, 1953, SAVANNAH RIVER LABORATORY

Committee Members Present

D. E. Babcock	L. Squires	M. H. Wahl	C. W. J. Wende	J. C. Woodhouse	H. Worthington
R. J. Christl					
L. C. Cole					
L. C. Evans					
J. W. Morris					
L. M. Arnett	R. I. Martens	J. O. Morrison	A. N. Parkes	W. E. Winsche	

Others Present During Parts
of the Meeting

APPROVALS

The following Studies were approved:

Study No.	Title	Man	Months	From	To
8510	Purex Design Testing	15	12/1/53	12/1/53	2/28/54
8511	Purex Extraction - Operation Studies	22	12/1/53	12/1/53	2/28/54
8512	Separations Process Chemistry	42	12/1/53	12/1/53	2/28/54
8513	Separations Engineering Development	22	12/1/53	12/1/53	2/28/54
8517	Purex Process Hazards	3	12/1/53	12/1/53	2/28/54
8521	Hydride Development	3	12/1/53	12/1/53	2/28/54
8522	Analytical Chemistry Development	23	12/1/53	12/1/53	2/28/54
8523*	Waste Handling	3	12/1/53	12/1/53	2/28/54

* New Study

MASTER

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INFORMATION AND AGREEMENTS REACHED1. Safety

(a) Recent incidents at the Laboratory have emphasized the need for an outside storage shed for hazardous chemicals. The Laboratory will take the necessary steps to obtain a suitable facility.

(b) With the assistance of and under the observation of the Plant fire department, procedures are being established for coping with fires in laboratory hoods.

2. Parts I and II of Building 773-A have been inspected and occupied. A considerable amount of construction work is required to complete the cave wing, but the rest of the building has been accepted with only minor exceptions. The Construction Division now says that Part III, the new metallurgical section, will be completed by January 25, 1954, except for a few long delivery items.

3. Accountability regulations at the Laboratory are being modified to permit more accurate control.

4. Although new procedures have increased the operating efficiency of Laboratory shop facilities, these facilities still appear to be very inadequate. The Laboratory will forward to Wilmington a proposal for the addition of about nine additional machines and for a minor amount of rearrangement. Meanwhile Evans will determine how this modification can be handled expeditiously.

5. In the future, certain categories of Engineering Work Requests will be discussed with the Laboratory prior to approval at Wilmington. Copies of all future authorized Work Requests covered by Process Development funds will be forwarded to the Laboratory.

6. Work will continue on the development of a method for reducing the length of flat plate fuel elements after irradiation, so that the reduced lengths can be safely stored, handled, and charged to present 200 Area dissolvers.

7. Recent changes in future SRP production requirements will probably influence the 200 Area Process Development program as follows:

(a) Increased tritium requirements accent the need for the development of more efficient and economical tritium separation processes and possibly for a U²³⁵ recovery process.

(b) Requirements for plutonium produced by radiation to a level of [REDACTED] may continue the need for the development of methods for increasing separations capacity, in spite of the number of reactors required for tritium production.

(c) The need for hydride production has been delayed. Development work on this process should proceed at a low level.

(d) Building 235 is not scheduled for future operation at this time.

8. To avoid expending unnecessary efforts, the Laboratory is working closely with Works Technical in planning TNX programs associated with plant startup.

9. The next Steering Committee meeting will be at the Laboratory on January 12, 1954.

10. The following are attached for information:

Appendix A - Financial Status
Appendix B - Separations Technology Program
Appendix C - Analytical Development Program
Appendix D - Study Status

TECHNICAL DIVISION

L. C. Evans

LCE:hw
Attachs.

APPENDIX ATECHNICAL DIVISION FINANCIAL STATUS

At the end of October, Technical Division costs to date during FY-1954 were about \$600,000 (23%) under the June Financial Plan estimate or about 11% under total expected FY-1954 costs spread evenly throughout the year. Although this financial position is considered sound, this underrun should not be considered representative of performance for the entire year since monthly costs are expected to increase significantly as FY-1954 progresses.

Beginning in FY-1955 the Technical Division will operate under the following four programs:

- A. Reactor Development Program - Will cover all development work associated with 100 Area processes.
- B. Metallurgical Development Program - Will cover all development work associated with 300 Area processes.
- C. Chemical Processing Development Program - Will cover all development work associated with 200 Area and 400 Area processes, except those covered below.
- D. Weapons Development Program - Will cover all development work associated with the Hydriside and Component Fabrication (Bldg. 235) processes.

APPENDIX BSEPARATIONS TECHNOLOGY PROGRAM

12/1/1953 to 2/28/1954

		<u>Estimated Man Months</u>
Study 8510	Purex Design Testing	15
	Reliability Tests of 1AF Jet Mockup	
	Characteristics of Transfer Jets	
	Strainer-Separator Evaluation	
	Head End Equipment Operation	
Study 8511	Purex Extraction - Operation Studies	22
	Behavior of 1AF Jet Mockup	
	Head End Operation	
	Mixer-Settler Operation	
	Instrumentation Studies	
Study 8512	Separations Process Chemistry	42
	High Temperature Flowsheet Distribution Data	
	Effect of High Temperature on Solvent Degradation	
	Ion Exchange Studies	
	Metallurgical Waste Recovery Dissolving Studies	
	New Fuel Element Dissolving Studies	
	Ruthenium Chemistry	
	Kinetics of Mass Transfer	
	Slug Dissolver and Mini Equipment Development	
	Planning for Producer Alloy Extraction Tests	
	Head End Cake Disposal	
	Electrolytic Separation	
Study 8513	Separations Engineering Development	22
	Capacity Study of 221 Building	
	Pump Development	
	Evaporator Development	
	Development of an Improved Contactor	
	Rate Jet Study	
Study 8517	Purex Process Hazards	3
Study 8521	Hydriside Development	3
Study 8523	Waste Handling	3

APPENDIX C

ANALYTICAL CHEMISTRY PROGRAM
12/1/1953 to 2/28/1954

Study 8522 Analytical Chemistry Development

23 man months
 estimated

1. Precise TBP Analysis in Solvent
2. Hydrolysis Products of TBP in Solvent
3. Isotope Analysis
4. Equipment Installation and Checking
5. Organic in Aqueous Solution
6. Acid in Hydrolyzable Ion System
7. 400 Area Gas Analysis
8. Polarograph
9. Plenum Gas Analysis
10. D Line Analyses
11. Alloy Decontamination
12. Unknown Problems

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APPENDIX D

TECHNICAL DIVISION STUDY STATUSDPW-53-1438

Study No.	Title	Man Mo.	From	To	Man Mo. used to 11/30	Total Man Mo. used to 11/30	Program	Budget
8501	Non-destructive Testing - Present Components	10	10/1/53	12/31/53	5.6	34.45	300	2802.1
8502	300 Area Process Development- Present Components	9	10/1/53	12/31/53	5.1	47.4	300	2802.1
8503	New Fuel Element Fabrication	10	10/1/53	12/31/53	7.35	42.25	300	2802.2
8504	Protective Coatings for New Fuel Elements	40	10/1/53	12/31/53	22.35	56.75	300	2802.2
8505	Corrosion	12	10/1/53	12/31/53	5.65	30.35	5% 400 20% 300 25% 300 50% 300	2950 2910.3 2802.1 2802.2
8506	100 Area Process Development - General	30	11/1/53	1/31/54	11.4	80.3	75% 100 25% 100	2803 2910.1
8507	Heat Transfer and Water Quality	7	11/1/53	1/31/54	1.8	Close to Manufacturing		
8509	Design and Evaluation of Fuel Elements	23	11/1/53	1/31/54	3.6	40.1	75% 100 25% 100	2803 2910.1
8510	Purex Design Testing	15	12/1/53	2/28/54	0	57.65	200	2804
8511	Purex Extraction - Operation Studies	22	12/1/53	2/28/54	0	54.95	200	2804
8512	Separations Process Chemistry	42	12/1/53	2/28/54	0	40.6	70% 200 30% 200	2804 2910.2
8513	Separations Engineering Development	22	12/1/53	2/28/54	0	37.0	200	2804
8514	Instrumentation - Prototype Programs	6	10/1/53	12/31/53	2.0	36.2	40% 100 15% 100 45% 200	2803 2910.1 2804
8515	Instrument Development - General	30	10/1/53	12/31/53	16.35	67.55	30% 100 10% 100 45% 200 5% 300 10% 400	2803 2910.1 2804 2802.1 2950

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TECHNICAL DIVISION STUDY STATUS (Cont.)

Study No.	Title	Man Mo.	From	To	Man Mo. used to 11/30	Total Man Mo. used to 11/30	Program	Budget
8516	Non-destructive Testing -							
	New Fuel Elements	20	10/1/53	12/31/53	8.3	28.55	300	2802.2
8517	Purex Process Hazards	3	12/1/53	2/28/54	0	20.7	200	2804
8518	Theoretical Physics	40	11/1/53	1/31/54	11.1	86.1	65% 100	2803
							35% 100	2910.1
8519	Experiment Pile Physics	80	11/1/53	1/31/54	26.0	162.35	60% 100	2803
							40% 100	2910.1
8520	100 Area Mechanical Development	40	11/1/53	1/31/54	12.5	66.2	75% 100	2803
							25% 100	2910.1
8521	Hydride Development	3	12/1/53	2/28/54	0	14.25	Weapons	3754
8522	Analytical Chemistry Development	23	12/1/53	2/28/54	0	18.3	50% 200	2804
							30% 200	2910.2
							5% 400	2950
							15% Weapons	3754
8523	Waste Handling	3	12/1/53	2/28/54	0	0	200	2804

December 15, 1953