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(SRH--814)

E. I. DU PONT DE NEMOURS AND COMPANY

Explosives Department
Atomic Energy Division
Wilmington, Delaware

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Date: 2/4/89

MINUTES OF TECHNICAL DIVISION STEERING COMMITTEE MEETING
OCTOBER 11, 1955-- SAVANNAH RIVER LABORATORY

Committee Members Present

D. F. Babcock
J. W. Croach
Gerhard Dessauer
L. C. Evans
J. W. Morris
M. H. Wahl
C. W. J. Wende
J. C. Woodhouse
Hood Worthington

APPROVALS

The following Studies were approved for the programs outlined in the appendixes:

Study No.	Title	Man Months	From	To
8501	Nondestructive Testing	0	10/1/55	12/31/55
8502	300 Area Process Development - Present Components	3	10/1/55	12/31/55
8503	New Fuel Element Fabrication	23	10/1/55	12/31/55
8504	Protective Coatings for New Fuel Elements	55	10/1/55	12/31/55
8505	Corrosion	12	10/1/55	12/31/55
8508	Instrument Development - 300 Area	25	10/1/55	12/31/55
8514	Instrument Development - 200 Area	34.5	10/1/55	12/31/55
8515	Instrument Development - 100 Area	20.5	10/1/55	12/31/55
8524	New LM Elements	12	10/1/55	12/31/55

MASTER

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INFORMATION AND AGREEMENTS REACHED

1. Safety

The Laboratory's minor injury frequency for September was 0.24, a sharp decrease from 0.47 for August and the best performance in recent months. Nearly all the September injuries were very minor in nature - such as small skin breaks on fingers.

Special emphasis has led to a significant improvement in general housekeeping.

The necessity for following SWP procedures is being stressed. There have been several recent instances in which these established procedures were not followed.

New laboratory technicians will now be given a preliminary training course in safety and other job requirements before being assigned to individual chemists. The Laboratory has noted that the safety morale of these technicians has not been outstanding when they were hired and immediately assigned to a chemist.

2. The Laboratory had two security violations (classified papers out, safes left unlocked, etc.) in September, a reduction from ten in August. This decrease is attributed partially to the new high-visibility folders adopted in August for holding classified documents.

3. In view of possible future increased production requirements for tritium, the Laboratory will:

(a) Aim at getting lithium irradiation processes firmly established, particularly for extended surface elements.

(b) Make studies to predict probable yields. Particular attention will be given to resolving the apparent deficiency from calculated yield experienced elsewhere.

(c) Consider alternate or modified recovery processes capable of higher yields and capacity, e.g., the use of sparging in the vacuum furnace.

(d) Consider what our program should be if the Plant were required to start making large quantities of tritium about a year from now.

4. The Laboratory and the Wilmington technical sections will work together to freeze designs for both natural and enriched fuel assemblies to permit firm work on components and to permit a decision as to whether further work on ultrasonic welding at Aeroprojects is necessary.

5. In cases where it is reasonable to do so, we should write DP reports in such manner that they can be made available for the Civilian Applications Program, using a classified cover letter on local copies when necessary to relate the contents of the report to Plant application.

6. The Laboratory will send to Hood Worthington a proposal for building additional high level cave facilities required to keep step with our programs aimed at major productivity increases.

7. This year we will not hold a review of development programs to support the December Financial Plan. The SROO may, however, request a review of new fuel elements programs, including both technical and manufacturing aspects. The Technical Division's contribution to such a review is visualized as perhaps a 45-minute talk by one person, a talk similar to that given each month as part of the Steering Committee Meeting.

8. The next Steering Committee Meeting will be held on November 15, one week later than usual.

9. Attached for information are:

Appendix A - Financial Status

Appendix B - Pile Materials Program

Appendix C - Instrument Development Program

Appendix D - Technical Division Study Status

TECHNICAL DIVISION

L. C. Evans

LCE:EV
Attach.

APPENDIX A

FINANCIAL STATUS

The Financial Plan covering process development for FY-1956 was revised after two months' actual experience. The total funds available for development remain unchanged at $9,360,000 even though we underran the original Plan by $153,000 in the first two months. The revised Plan has now been approved by the SROO.

APPENDIX B

SAVANNAH RIVER LABORATORY
PILE MATERIALS PROGRAM
OCTOBER 1 TO DECEMBER 31, 1955

Program	July 1 - Sept. 30	Oct. 1 - Dec. 31	Work to be Completed
U Slugs	5%	9%	-TA for quench-annealed slugs -Fundamentals of aluminum corrosion -Materials of construction 200 Area Processes
U Plates	55%	53%	-Procure uranium cores -Measure preferred orientation -Quench-anneal heat treatment -Irradiation at SRP -Examination of MTR plates -Cave techniques -Quality control of components -Core straightening -Nickel plating -Aluminum cleaning -Plate recovery -Assembly studies -Step pressing -Fluid-pressure bonding -Plate straightening -End closures -Plate machining -Nondestructive test -Destructive evaluation -Study of U-Ni-Al bonds
U Tubes	17%	29%	-Tube procurement -Irradiate Zr-clad tubes -Procure aluminum components -Straightening techniques -Nickel plating -Tube assemblies -Die-sizing -End-plug coating -Fluid-pressure bonding -Nondestructive test -Extrusion cladding
U-Al Slugs	2%	1%	-Corrosion of irradiated alloy
U-Al Tubes	13%	6%	-Physical metallurgy -Technical Manual and Technical Standards -Finish 30 tubes

Program	July 1 - Sept. 30	Oct. 1 - Dec. 31	Work to be Completed
Thorium	7%	2%	-Thorium Committee work -Mark IV slugs for irradiation -Galvanic corrosion couples
Oxide Elements	1%	-	----------
	100%	100%	

MANPOWER REQUIREMENTS

Study Code	Title	Estimated Man Months
8502	300 Area Process Development - Present Components	3
8503	New Fuel Element Fabrication	23
8504	Protective Coatings for New Fuel Elements	55
8505	Corrosion	12
8524	New LM Elements	12

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APPENDIX C

SAVANNAH RIVER LABORATORY
INSTRUMENT DEVELOPMENT PROGRAM
OCTOBER 1 TO DECEMBER 31, 1955

Study Code	Name	Estimated Man Months
8508	Instrument Development - 300 Area	25
	Job #10 Eddy Current NDT - General	
	10-3 Inclusion Tester	
	10-6 Tester for Cans	
	18 Ultrasonic NDT - General	
	18-4 Non-Bond Tester for Slugs	
	18-6 Transformation by Resonance	
	18-10 High Speed Non-Bond Tester	
	18-14 Ultrasonic Tester for Voids in Sheaths	
	24 Evaluation of NDT	
	47-4 Core Thickness Test for Mark V	
	47-5 Zr Sheath Thickness	
	68 Wall Thickness Tester	
	-- Supervision and Service	
8515	Instrument Development - 100 Area	20.5
	Job #3-1 Fission Break Monitors	
	3-5 Improved Pile Flux Monitor Tester	
	12-2 Matrix Monitor	
	12-3 Three-Dimensional Recorder	
	19 Photomultiplier Tubes	
	26 Poison Computer	
	28 Traveling Wire Flux Monitor	
	42 100 Area Prototype Evaluation	
	46 Compensated Ion Chamber	
	57 Flow Monitor	
	62 Temperature Monitor	
	-- Supervision and Service	
8514	Instrument Development - 200 Area	34.5
	Job #1 Counting Room Instruments	
	5-1 Alpha Water Monitor	
	5-2 Beta-Gamma Water Monitor	
	5-3 Coupling Waste Stream Monitor	
	5-4 Condensate Activity Monitor	
	7-2 Laundry Monitor	
	7-3 Alpha Hand and Foot Counter	
	7-4 Alpha Poppy Probe	

Study Code	Name	Estimated Man Months
8514	Instrument Development - 200 Area (Cont'd)	
	Job #19-1 Temperature Dependence of PM Tubes	
	34 Cold Cathode Survey Instruments	
	69 Fission Counter	
	70 Airborne Alpha Monitor	
	73 Gloved Box Monitor	
	76 Turbidimeter	
	77 Continuous Colorimeter for U	
	80 Continuous Polarograph	
	81 M-S Inventory Monitor	
	83 Sampling Facilities for In-Line Analyzers	
	84 Component Testing	
	85 Coupling Load Monitor	
	-- Supervision and Service	

Current ORNL Program

Make a brief overall study of process control
Study sampling facilities
Plant application of specific gravity - Conductivity
Test SRL instruments in "hot" pilot plant
Make a basic study of one analytical parameter

TECHNICAL DIVISION STUDY STATUS

Study No.	Title	Man Mo.	From	To	Man Mo. Used Against Authoriz.	Total Man Mo. Used FY-1956	Program	Budget
8501	Nondestructive Testing	0	10/1/55	12/31/55	0	0	60% MD 40% MD	2722 2771
8502	300 Area Process Development-Present Components	3	10/1/55	12/31/55	0	.20	MD	2722
8503	New Fuel Element Fabrication	23	10/1/55	12/31/55	0	1.20	MD	2722
8504	Protective Coatings for New Fuel Elements	55	10/1/55	12/31/55	0	42.00	MD	2722
8505	Corrosion	12	10/1/55	12/31/55	0	12.5	40% MD 20% MD 20% MD 20% CPD	2722 2742 2771 2724
8506	100 Area Process Development-General	17.5	8/1/55	10/31/55	12.70	17.50	RPD	2723
8508	Instrument Development - 300 Area	25	10/1/55	12/31/55	0	22.3	85% MD 15% MD	2722 2771
8509	Design and Evaluation of Fuel Elements	61.5	8/1/55	10/31/55	38.00	55.65	80% RPD 10% RPD 10% RPD	2723 2730 2743
8511	Separations Process and Equipment Demonstration	42	9/1/55	11/30/55	12.9	39.7	80% CPD 20% CPD	2724 2730
8512	Separations Process Chemistry	55	9/1/55	11/30/55	16.7	53.90	90% CPD 8% CPD 2% CPD	2724 2730 2744
8513	Separations Engineering Development	42	9/1/55	11/30/55	14.15	42.20	90% CPD 5% CPD 5% CPD	2724 2730 2744