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F. M. Belmore, Manager

April 14, 1953

R. L. Kirk, Director, Production Division

**FISCAL YEAR 1953 RESEARCH AND DEVELOPMENT EXPENDITURES**

SYMBOL: FMRLK:vs

The purpose of this memorandum is to present:

- a. The status of expenditures in the Research and Development program.
- b. Our recommendations regarding the budget under-run.

Table I presents the data on operating expenditures to date and projected for the balance of the year on all projects and contracts in the program. Table II compares the original Research and Development operating budget with the revised request made during the mid-year review and with the currently projected expenditures.

It is evident that the operating budget under-run is primarily associated with the new or expanded programs incorporated at the time of the mid-year review. The reasons for the under-runs are as follows:

- a. Bridgeport Brass: (under-run \$26,000). This under-run results from delays which occurred in obtaining a definitive contract. Despite repeated efforts on the part of this office, the contractor was reluctant to agree to execution of a definitive contract that did not obligate funds to cover most of the operating costs contained in the contractor's proposal for work. The approved financial plan providing \$216,000 operating funds for work under the contract was received in mid-February and \$80,000, the then estimated cost of work through June 30, 1953, was obligated in a definitized contract. It appears an additional \$10,000 will be spent in fiscal year 1953, bringing the total fiscal year 1953 operating expenditures to \$90,000. Additional money will be required in fiscal year 1954 to cover work remaining under the contract.
- b. Mallinckrodt Chemical Works: (under-run \$84,000) To incur the additional operating costs contemplated at mid-year for MCW development, it would have been necessary that funds be available early in January for procuring the equipment required in the work. Until equipment funds were available, development work was severely retarded to the extent that only \$30,000 of the additional \$114,000 requested will be spent in this fiscal year.

cc: F. Chrestia, Finance and Budget

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- c. Superior Steel: (under-run \$92,000) This under-run results from the understanding (December 3, 1952) that SRO would require up to 1000 good plates for evaluation in the shortest possible time. In March 1953, however, du Pont advised that they would be unable to examine more than five or ten plates per week. Superior has the capacity and willingness to produce large quantities but present limited outlet requires scaling down this effort temporarily.
- d. Chemical Construction: (under-run \$18,000) Extended contract negotiations, previously unforeseen, delayed definitizing the contract to the extent that work during fiscal year 1953 will be set back to the extent of this under-run.
- e. M.I.T.: (under-run \$15,000) This work calls for instrumentation studies by Dr. Kaufmann of M.I.T. and original estimates contemplated Dr. Kaufman's completing the studies in fiscal year 1953. However, the proposed contractor has advised that Dr. Kaufman's services cannot now be spared for the proposed work.

It should be noted that the first three items represent projects the scope of which has not changed since they were proposed. Thus, expenditures contemplated in fiscal year 1953 will now fall in fiscal year 1954 and may occasion a revision in the fiscal year 1954 cost ceiling.

As a result of the circumstances described above, it now appears that we will under-run the fiscal year 1953 operating budget by \$143,257. It does not appear that we can accelerate current work or institute new work sufficiently to reduce this under-run. Moreover, it appears, in view of the circumstances, that we are obliged to give up funds now in order to lay the basis for a request to revise the '54 budget.

We believe that this operating under-run does not jeopardize future expenditure levels since it is recognized that there would be an induction period in getting work authorized in the mid-year review underway. Where the monthly expenditures were approximately \$240,000 for the first 8 months, the average monthly rate for the balance of the year is estimated to be \$374,000 equivalent to \$3,421,743 per year.

Accordingly, we recommend that we now give up \$150,000 in operating funds and accompany this release with a statement that a commensurate increase in the fiscal year 1954 budget may be necessary.

CC: F.Chrestia

Enclosures:

Table I

Table II

TABLE I  
Research and Development Operations  
Feed Materials - General

<u>Contract or Project</u>	<u>Actual Cost thru 2/28/53 (8 mos.)</u>	<u>Monthly Rate</u>	<u>Estimated Exp. Bal. FY '53</u>	<u>Monthly Rate</u>	<u>Estimated Total FY '53</u>	<u>Approved Financial Plan</u>	<u>Change</u>
<u>Process Develop. Fd Matls</u>	1,922,702	240,334	1,499,041	374,460	3,421,743	3,565,000	-143,000
<u>Feed Mat'ls - General</u>							
American Cyanamid	195	24			195	195	
Battelle Memorial	72,615	9,077	41,385	10,346	114,000	114,000	
Blaw-Knox	231	29	9,769	2,442	10,000	10,000	
Bridgeport Brass			90,000	22,500	90,000	116,000	-26,000
Brush Beryllium	7,595	949	4,405	1,101	12,000	12,000	
Catalytic Construction	104,743	13,093	72,257	18,064	117,000	117,000	
Columbia University	14,897	1,862	10,103	2,526	25,000	25,000	
Electric Circuit			1,000	250	1,000	1,000	
International Nickel	(17,863)	(2,233)			(17,863)	(18,000)	
Mallinckrodt	184,948	23,118	148,052	37,013	313,000	417,000	-84,000
Metals and Controls	2,752	344	52,248	13,062	55,000	43,000	+12,000
Metal Hydrides	20,412	3,551	21,588	5,397	50,000	50,000	
Minn.-Honeywell	20,057	2,507	9,943	2,486	30,000	30,000	
M.I.T.						15,000	-15,000
Naval Research	6,838	854			6,838	7,000	
N.Y.U.	13,156	1,644	10,844	2,711	24,000	24,000	
Ruggera University	3,371	421			3,371	3,500	
Superior Steel	1,977	247	52,023	13,008	54,000	146,000	-92,000
Syracuse University			9,000	2,250	9,000	9,000	
Sylvania - 366	340,601	42,575	223,399	55,829	564,000	564,000	
			80,000	20,000	80,000		+80,000
Sylvania - 1293	1,101,710	137,714	525,290	131,322	1,627,000	1,627,000	
Tufts College	29,897	3,737			29,897	30,000	
Vitre Corp. of Amer.-148	5,021	628	4,979	1,244	10,000	10,000	
Vitre Corp. of Amer.-848	1,497	187	1,503	375	3,000	3,000	
Misc.- unassigned	52	6	33,253	8,313	33,305	58,305	-25,000
Instrumentation			50,000	12,500	50,000	50,000	
Chemical Construction			23,000	5,750	23,000	41,000	-18,000
B-10 Development					25,000		+25,000

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TABLE II

Process Development  
2601 - Feed Materials - General

	Previous Plan	Revised Approved Financial Plan	Difference	New Estimated Total Expense FY 1953	Difference Revised and New
American Cyanamid		195		195	-0-
Battelle Memorial	127,000	114,000	-13,000	114,000	-0-
Blaw-Knox	14,000	10,000	-4,000	10,000	-0-
Bridgeport Brass	80,000	116,000	+36,000	90,000	-26,000
Brush Beryllium	12,000	12,000	-0-	12,000	-0-
Catalytic Construction	180,000	177,000	-3,000	177,000	-0-
Columbia University	25,000	25,000	-0-	25,000	-0-
Chemical Construction	-0-	41,000	+41,000	23,000	-18,000
Electric Circuit	1,000	1,000	-0-	1,000	-0-
International Nickel	-0-	-18,000	-18,000	-17,869	+137
M.I.T.	-0-	15,000	+15,000	-0-	-15,000
Hallinckredti	303,000	417,000	+114,000	313,000	-28,000
Metals Hydrides	50,000	50,000	-0-	50,000	-0-
Metals and Controls	38,000	43,000	+5,000	25,000	-12,000
Naval Research	7,000	7,000	-0-	6,838	-162
Minn. Honeywell	30,000	30,000	-0-	30,000	-0-
New York University	26,000	24,000	-2,000	24,000	-0-
Rutgers University	3,000	3,500	+500	3,371	-129
Sylvania - 366	531,000	564,000	+33,000	564,000	-0-
Sylvania - 1293	1,400,000	1,627,000	+227,000	1,627,000	-0-
Syracuse University	9,000	9,000	-0-	9,000	-0-
Superior Steel	38,000	146,000	+108,000	54,000	-82,000
Tufts College	30,000	30,000	-0-	28,897	-1,103
Vitre - 148	-0-	10,000	+10,000	10,000	-0-
Vitre - 848	4,000	3,000	-1,000	3,000	-0-
Instrumentation	-0-	50,000	+50,000	50,000	-0-
Unassigned	-0-	58,305	+58,305	13,305	-45,000
B-10 Development				25,000	
	2,900,000	3,565,000	+665,005	3,421,743	-143,257