

## RESEARCH AND DEVELOPMENT PROJECT STATUS REPORT

DATE: AUG90

PROJECT NO.: B-451

PROJECT NAME: CIGARETTE MODIFICATION 1990 - CMP

## PROJECT DESCRIPTION:

The project will explore approaches to reduce, in mainstream cigarette smoke, the following smoke components: NOx, HCN, BAP, NNN, Carbonyls, Catechol, and certain gas phase constituents. The approaches will include: 1. The use of special tobacco blends consisting of altered tobaccos, stems and reconstituted materials; 2. Additives; 3. Innovative cigarette constructions; 4. Unique filter designs. The Life Sciences Group will develop and validate appropriate in vitro biological test to document the efficacy of the changes in cigarette smoke composition.

## I. COSTS

MONTH	HOURS		WAGES/OVERHEAD		OTHER		TOTAL		CUMULATIVE	
	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	ACTUAL
			\$	\$	\$	\$	\$	\$	\$	\$
JAN 90	517	876	37,152	57,142	0	0	37,152	57,142	37,152	57,142
FEB 90	779	581	57,180	41,694	0	0	57,180	41,694	94,332	98,836
MAR 90	833	666	65,505	52,303	0	0	65,505	52,303	159,837	151,139
APR 90	819	587	60,574	43,835	0	0	60,574	43,835	220,411	194,974
MAY 90	819	788	59,995	58,895	0	0	59,995	58,895	280,406	253,869
JUN 90	819	778	55,534	47,829	0	0	55,534	47,829	335,940	301,698
JUL 90	817	720	61,449	51,459	0	0	61,449	51,459	397,389	353,157
AUG 90	817	992	61,449	72,735	0	0	61,449	72,735	458,838	425,892
SEP 90	817	852	61,468	61,160	0	0	61,468	61,160	520,306	487,052
OCT 90	817	0	61,023	0	0	0	61,023	0	581,329	487,052
NOV 90	817	0	52,114	0	0	0	52,114	0	633,443	487,052
DEC 90	748	0	58,341	0	0	0	58,341	0	691,784	487,052
TOTAL	9,419	6,840	691,784	487,052	0	0	691,784	487,052		

## II. TECHNICAL APPROACH

COMPONENT	ESTIMATED TIME PERIOD	ESTIMATED HOURS	% COMPLETED
1. Analytical	01/01/90 - 12/31/90	1016	84
2. Organic	01/01/90 - 12/31/90	756	56
3. Tobacco Science	01/01/90 - 12/31/90	3195	62
4. Life Sciences	01/01/90 - 12/31/90	2300	62
5. Product Development	01/01/90 - 12/31/90	2152	67
	* TOTAL	9419	

## III. MONTHLY ACTIVITY

Two experimental cigarettes were made and studied. These cigarettes had dual filters, a 17 mm 30-70 Filtrona carbon section and a 10 mm CA section. The Filtrona carbon filter contained approximately 70 mg carbon. Carbonyl removal was approximately 60%, but needs to be greater. When the filters were ventilated to give about 25% air dilution at three different positions, 12, 18 and 25 mm from the butt end, no differences in the carbonyl removal rate was found. These results are to be confirmed. A sample of green flue-cured type tobacco was collected from a local farm to see what effect different curing methods have on TSNA formation. The tobacco is being sun-cured and air-cured by J. Douglas. Tobacco blends containing paper products increase BAP content by about 25%. This can be reduced by changing the construction parameters. Further blend work using modified cellulose is planned.

A significant amount of time is being spent in preparation for symposium in September.

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