FILE NAME: Ford (FD)

DATE: 1981 Sept 24

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DOCUMENT DESCRIPTION: Memo - 1982 Advanced Budget - Toxic/Hazardous Advisory Group with Data Attachment



PLAINTIFF'S EXHIBIT

FD-1639

Inter Office

Car Engineering

Advanced Vehicle Engineering and Technology

September 24, 1981

To: S. Gratch
A. Iaconelli
D. J. McChesney
N. W. Ressler
V. H. Sussman
C. F. Talbot
P. E. Toth

cc: A. B. M. Houston
T. A. Loch*

Subject: 1982 Advanced Budget - Toxic/Hazardous Advisory Group

For 1982, there are only five (5) toxic substance-related advanced projects (attached). I do not feel that this small number of projects justifies a prioritization meeting.

What I propose is a telephone vote. Frank Carson (X-23759) will be contacting you on October 1, requesting your direction on individual projects. The following are the criteria (identical to last year) for prioritizing tox/haz projects:

Priority	
1	Must do (stay in business, attain major business or profit objective).
2	Highly desirable.
3	Discretionary (do if funds available).
4	Defer or drop (low risk).

Our plan is to prepare a short report and submit it to the group's members by October 7 for comments/concurrence.

G. F. Bolling

FC/ksh

Attachment

*Mr. Loch is representing Mr. McChesney.

8006 1745

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Project Title	Project Number
1. R-12 Reduced Leakage/Charge 3	FAP-06
2. Alternate Fluorocarbons 2	FAP-09
3. Friction Materials & Systems /	R6120
4. Asbestos-Free Brake Linings /	CZA-214
5. Lead Solder Replacement 2	BR04G
Toxic Substances Total	

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1982 TOXIC SUBSTANCES

Location Code	Present Proposed Budget $(000)	Voting Record						Ave
CCD	$ 118.0							
CCD	99.0							
Res	278.8							
PPE-C	100.0							
BEPE	100.0							
	$ 695.8							

Advanced Engineering and Research Project Description and Status

TECHNICAL INFORMATION SYSTEM

LF06 3A

PROJECT DESCRIPTION

Project No. (Limit to 6 spaces) 1	Location Code 2	Project Name (Limit to 43 spaces) 3	82 Econ	Budget ($000) Labor	Mat'l/Service	Other
FAF06	CCD	R-12 Reduced Leakage/Charge		62	45/11	118.

Want Code 5	Priority 6	7	Comm. 7A	Comm. 7B	Comm. 7C	Comm. 7D	8	C/O Project 10 No	81 Econ		
V0-103	A	V8A	~~V8A~~	V2E	V2A	V2G		FAF06		1	

Department Manager/Phone 11	Chief Engineer/Director/Phone 11	Location Planner/Phone 11	1st Qtr.	1981 Economics
L. E. Colombo/40854	N. W. Ressler/76041	P. W. Drenkow/ 3131		1

Other Offices Involved 12	Facing Project Required by 13	Prior Year(s) Expense 14	Future Year(s) Forecast 15	2nd Qtr.	
					1

Suppliers 16	Senior Buyer 17	Man Months 18	3rd Qtr.	
		16		1

Target Model Year 19	Target Vehicle/Plant 19	Weight 19	Design Cost 19	Fuel Economy 19 Effect	Repair Rate 19	Investment 19	4th Qtr.	
1984	TBD	TBD lbs	$ TBD	TBD Mpg	TBD R/100	$ TBD		1

Program Objectives 20 (Limit to 360 spaces)

- Continue development of A/C systems and components for reducing refrigerant leakage and charge to satisfy anticipated EAP regulation.
- Develop leakage data base of A/C systems/components using "SHED" technique.

#1

Technical Approach (List major evolutions) 21 (Limit to 360 spaces)

Start date 22: 1-4-82

Completion Dates: Scheduled | Actual

STATUS REPORTS

Status as of _____ (Limit to 360 spaces)	YTD Expenses	Year End Forecast	% Work Complete	Notes (Limit to 13 sp)
24A	$ 25A	$ 26A	27A	28A
24B	$ 25B	$ 26B	27B	28B
24C	$ 25C	$ 26C	27C	28C
24D	$ 25D	$ 26D	27D	28D

Numbers on form refer to instructions on reverse side

Eng & Res Staff 81 5183 (Previous editions may NOT be used.)

Issue/Revision Dates 29: 8/24/81

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1982 0000 1748

Advanced Engineering and Research Project Description and Status

TECHNICAL INFORMATION SYSTEM

LF09 3A

Project No. (Limit to 6 spaces) 1	Location Code 2	Project Name (Limit to 43 spaces) 3		Budget ($000)		
FAF09	CCD	Alternate Fluorocarbons	82 Econ	Labor 43	Matl/Service 49 17	99.(

Want Code 5	Priority 6	Comm 7A	Comm 7B	Comm 7C	Comm 7D	8	9	C/O Project 10 No.	81 Econ		
VO-103	A	V8A	V2E	V2C	V2G		TT	FAF09			

Department Manager/Phone 11	Chief Engineer/Director/Phone 11	Location Planner/Phone 11	1st Qtr.	1981 Economics
L. E. Colombo/40854	N. W. Ressler/76041	P.W.Drenkow/ 8-832-3131		1

Other Offices Involved 12	Facing Project Required by 13	Prior Year(s) Expense 14	Future Year(s) Forecast 15	2nd Qtr.	
					1

Suppliers 16	Senior Buyer 17	Man Months 18	3rd Qtr.	
DuPont, ICI, Allied	R. R. Prim	11		1

Target Model Year 19	Target Vehicle/Plant 19	Weight 19	Design Cost 19	Fuel Economy Effect 19	Repair Rate 19	Investment 19	4th Qtr.	
198X	All	None lbs.	$ TBD	TBD Mpg	TBD R/100	$ TBD		1

PROJECT DESCRIPTION

Program Objectives 20 (Limit to 350 spaces)

- Continue development efforts to resolve open issues of R-134a, R-500, R-22/142D and evaluate any new refrigerants proposed.
- Coordinate "Legislative Issue" matters with Corporate Activities.

#2

Technical Approach (List major evaluations) 21 (Limit to 350 spaces)

Start date 22: 1-4-82

Completion Dates: Scheduled | Actual

STATUS REPORTS

Status as of _____ (Limit to 350 spaces)	YTD Expenses	Year End Forecast	% Work Complete	Notes (Limit to 13 spl)
24A	$ 25A	$ 26A	27A	2
24B	$ 25B	$ 26B	27B	2
24C	$ 25C	$ 26C	27C	2
24D	$ 25D	$ 26D	27D	2

Numbers on form refer to instructions on reverse side

Issue/Revision Dates 29: 8/24/81

Eng & Res Staff June 81 5183 (Previous editions may NOT be used)

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Advanced Engineering/Research & Long Range Research Budget Worksheet

- For Advanced programs, instructions for completing this form are attached.
- For Long Range programs, fill in boxes 1, 2, 3, 4B, & 11

TECHNICAL INFORMATION SYSTEM

R612

														Budget ($000)		
R6120		RES	Friction Materials and Systems												Mat'l/Service	
V5-035	A	V8B	VD	V3A	V88			TT	R6120					257.8	5.0 /6.0	278.8
J. E. Mayer/592-2080			M. Humenik/592-2030					M. A. Roberts/33-75506							1982 Economics	
PPE-C, PPE-T			PPE-C, PPE, T													
								56.0								

PROJECT OBJECTIVES

Study the behavior of friction materials and systems, and develop friction materials, test methods and quality control procedures.

#3

TECHNICAL APPROACH (Use extra sheets if necessary)

Same as 1982 PLANS listed below.

1982 PLANS

1. Provide brake design support to Concept Vehicles.
2. Continue non-asbestos lining studies, with emphasis on our laboratory material developments.
3. Perform disc brake cooling optimization studies for advanced vehicles (Taurus, Topaz, Versaille rear disc).
4. Initiate basic studies of drum brakes.
5. Continue QC test development, in particular update FAST and PGC QC tests for non-asbestos brake and clutch materials.
6. Using developed surface texture instruments begin correlation studies of surface texture with friction and wear performance.
7. Initiate scaled wet clutch experiments on non-asbestos materials.
8. Study interfacial interactions of sliding surfaces.

8006 1749 PQ

8006 1750

1982
Advanced Engineering and Research Project Description and Status
TECHNICAL INFORMATION SYSTEM

C7A714 — 4C14

Project No. (Limit to 6 spaces) 1	Location Code 2	Project Name (Limit to 43 spaces) 3	82 Econ	Budget ($000) Labor	Mat'l/Service	Tot
	PPE-C...	Asbestos-Free Brake Linings			/	

Work Code 5	Priority 6	V8B 7	Comm. 7A	Comm. 7B	Comm. 7C	Comm. 7D	8	9	S/O Project 10 No.	81 Econ	Labor	Mat'l/Service	
M9-051	A		V3A					TT		81 Econ	30	20 / 50	10

Department Manager/Phone 11	Chief Engineer/Director/Phone 11	Location Planner/Phone 11	1st Qtr.	1981 Economics
R.J.Neme/34050	J.D.Velte/30545	G.Gorker/30334		/

Other Offices Involved 12	Facing Project Acquired by 13	Prior Year(s) Expense 14	Future Year(s) Forecast 15	2nd Qtr.	
					/

Suppliers 16	Senior Buyer 17	Man Months 18	3rd Qtr.	
				/

Target Model Year 19	Target Vehicle/Plant 19	Weight 19	Design Cost 19	Fuel Economy 19 Effect	Repair Rate 19	Investment 19	4th Qtr.	
1984		lbs.	$	mpg	$/100	$		/

PROJECT DESCRIPTION

Program Objectives 20 (Limit to 360 spaces)

Develop asbestos-free brake linings to eliminate toxicity hazard while meeting functional, durability and noise objectives.

#4

Technical Approach (List major evaluations) 21 (Limit to 360 spaces)

	Start date 22	Completion Date Scheduled	Ac
. Complete DV lab and vehicle tests on lining samples submitted by vendors during calendar year 1981 and evaluate data.		4/1/82	
. Initiate fleet testing.		6/1/82	
. Finalize pilot program and issue OK-to-tool transferring effort from Advanced Engineering to Program.		10/1/82	

STATUS REPORTS

Status as of _____ (Limit to 360 spaces) 24A	YTD Expenses 25A $	Year End Forecast 26A $	% Work Complete 27A	Notes (Limit to 13

Status as of _____ (Limit to 360 spaces) 24B	YTD Expenses 25B $	Year End Forecast 26B $	% Work Complete 27B	Notes (Limit to 13

Status as of _____ (Limit to 360 spaces) 24C	YTD Expenses 25C $	Year End Forecast 26C $	% Work Complete 27C	Notes (Limit to 13 ac

Status as of _____ (Limit to 360 spaces) 24D	YTD Expenses 25D $	Year End Forecast 26D $	% Work Complete 27D	Notes (Limit to 13

Numbers on forms refer to instructions on reverse side

Eng & Rec Staff June 81 5183 (Previous editions may NOT be used.)

Issue/Revision Dates 29

8-21-81

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1982
Advanced Engineering and Research Project Description and Status

BL04G

TECHNICAL INFORMATION SYSTEM

381

Project No.	Location Code	Project Name							Budget ($K)		
	BEPE	Ford Solar Replacement							Labor	Mat'l/Service	Total
Work Code	Property		Component							1	
VO-071		V2C	V4A								
Department Name	Chief Engineer/Director/Manager		Location Manager/Name								
A. Iacobelli 1/79060	W. C. Tyner-31304										
Other Offices Involved	Testing Program Required by										
Research, AAD	None								50	25 / 25	100.0
Suppliers										1981 Economics	
American Cyanamid										1	

Target Introduction Year	Target Vehicle/Model	Weight	Design Cost	Fuel Economy Effect	Power Mode	Investment	Budget Year(s)	Future Years Forecast	Man Years
1985	All	TBD lbs	$ TBD	TBD mpg	TBD hp	$ TPD	87000	TBD	12

1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
	1	1	1

PROJECT DESCRIPTION

Program Objectives 32 (Limit to 360 spaces)

This project will be extended into the 1982 calendar year for long range weathering, durability and APG testing. Review and planning of 50-100 cars production trial.

#5

Technical Approach (List major evaluations) 33 (Limit to 360 spaces)

Start date 32: 01-04-82

Completion Dates 33

	Scheduled	Actual
• Begin test of three 1982 Mustangs for road durability, cycled weathering and APG tests.	TBD	
• Analyze test results and recommend for a 50-100 car production trial.	TBD	

STATUS REPORTS

Status as of ____ (Limit to 360 spaces) 34A | YTD Expenses 35A $ | Year End Forecast 36A $ | % Work Complete 37A | Notes (Limit to 13 spaces) 38A

Status as of ____ (Limit to 360 spaces) 34B | YTD Expenses 35B $ | Year End Forecast 36B $ | % Work Complete 37B | Notes (Limit to 13 spaces) 38B

Status as of ____ (Limit to 360 spaces) 34C | YTD Expenses 35C $ | Year End Forecast 36C $ | % Work Complete 37C | Notes (Limit to 13 spaces) 38C

Status as of ____ (Limit to 360 spaces) 34D | YTD Expenses 35D $ | Year End Forecast 36D $ | % Work Complete 37D | Notes (Limit to 13 spaces) 38D

Contact E. Rezendes (X33196)

Numbers on form refer to instructions on reverse side

Engineering Release Date 39: 7/10/81

Engineering Release No. 40: 5183 (Previous release No.; NOT to be used)

8006 1751