REQUEST FOR APPROPRIATION

DEPARTMENT	PLANT	DIVISION	NUMBER
Indus. Hyg. & Tox.	Dallas Office	Chemical	040-028 Revision 1

DATE: 1-21-80

ESTIMATE GRADE: ± 10%

Development and implementation of a Computer-Assisted Medical Surveillance (Health Monitoring) System - Revision 1

Amount (New Funds) This RFA	CAPITAL*	
	CATALYST INVENTO	
	EXPENSE	230,000
	TOTAL $	230,000
Amount Previously Approved	CAPITAL*	
	CATALYST INVENTO	
	EXPENSE	280,000
	TOTAL $	280,000

RETIREMENTS: ☒ NONE OR $ (GB

EQUIPMENT TRANSFERS: ☒ NONE OR $ (GB

OTHER MATL. (NOT NEW FUNDS ☒ NONE OR $

CAPITAL EXPENDITURE PLA

☐ NOT INCLUDED

☐ INCLUDED

PLAN FOR YEAR 19___

AMOUNT $

CLASSIFICATION (TYPE):

Facilities expected to be available operation mos. after approval.

EXPENDITURE SCHEDULE IN 00

Qtr. after approval	CAP.	CAT.	EX
1			25
2			25
3			25
4			25
Remainder			410

*Includes precious metals catalysts

NOTE: Complete the request paragraphed as follows, using additional sheets if necessary. 1. Object. 2. Description (of present and proposed operation and facilities, indicating essential differences). 3. Justification. 4. Project and Expenditure Schedule.

OBJECTIVE:

To develop and implement a Computer-Assisted Medical Surveillance (Health Monitoring) System which will have the capability of linking personnel, medical, and exposure information in a common manageable data bank.

DESCRIPTION (SUMMARY):

The RFA was originally approved for $280M. The revision is being submitted to obtain approval of an additional $230M (see Attachment A). A six-month delay is also requested in the implementation schedule. Whereas the original schedule has a phased implementation during 1979 and 1980, the revised schedule would run over into the first half of 1981. Attachment B summarizes the proposed revised expenditure schedule.

JUSTIFICATION:

The original RFA estimate was based on a Project Initiation Study which included pilot studies, extensive input from a medical and epidemiological consultant, review of similar programs being developed by other companies, etc. Since the approval of the RFA in September 1978, the Chemical Company has initiated the medical examination portion of the Project using large mobile vans. Over 2000 employee medical examinations have already been completed using the new exam protocol. Valuable experience gained in the first year of the medical program, along with key input from our consultant, has resulted in recommendations for increasing the overall development costs. Key factors are summarized below.

I. To insure adequate follow-up of all abnormalities detected in the exam program, the proposed program should be expanded to include information summaries for the nurses and Company Physician.

PLAINTIFF'S EXHIBIT

CEL-1446

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PLANT			DIVISION				CORPORATE
ACCOUNTING	ENGINEERING	MANAGER	CONTROLLER	ENGINEERING	Manufacturing	PRESIDENT	
SAFETY	OTHER		TECHNICAL	MARKETING	PLANNING		

JUSTIFICATION CONTINUED

2. Based on early experience with the new Medical Screening Program, it appears that significant numbers of employees have incurred possible job-related hearing loss. For example, over 40% of employees receiving audiometric testing have exceeded the test criteria signifying possible hearing loss. Due to the scope of this possible health problem, and due to the amount of medical follow-up that will be required (i.e., repeat audiometric testing, age adjusting of audiograms, comparing present audiograms with base-line audiograms, referrals to hearing specialists, and follow-up to insure wearing of hearing protective devices, etc.), it has become apparent that an expanded computerized program will be essential in order to manage and interpret this audiometric data. This expanded audiometric program goes far beyond the original scope of the Medical Surveillance RFA. The Project Team strongly recommends that we purchase a commercially available software package for storing and analyzing audiometric data. The proposed system is marketed by Impact Systems and can be purchased and installed as a part of our Health Monitoring Program for a total cost of $75M. It should meet both our short and long-term needs in this key area.

3. Key input from our consultant during 1979 has resulted in an expanded data audit function for the collected medical data. These expanded functions will insure the integrity and confidentiality of the data.

4. Numerous changes that were made in the exam protocol between the first and second pass of the mobile vans have necessitated the development of several conversion computer programs for input of the data.

5. The exposure portion (or Industrial Hygiene Module) of the proposed computer program has been expanded to include interpretive statements of all air monitoring surveys and abnormal occurrence exposure data (such as when employees receive chemical exposure when major spills or upsets occur). The Industrial Hygiene portion of the program has also been expanded to allow statistical evaluation of air monitoring data. In addition, several proposed changes have been made in the work history portion of the program. For example, the proposed computer program has been expanded to include plant audit reports identifying which employees have failed to turn in their weekly exposure time cards. All of these changes will significantly improve the effectiveness and usefulness of the Computer-Assisted Health Monitoring Program.

6. During 1979 the Charlotte Systems group conducted an extensive reevaluation of the Diamond Shamrock Computerized Medical Surveillance System that is being marketed commercially. Although we had evaluated the Diamond Shamrock system during the Project Initiation Study, significant improvements in the system necessitated a reevaluation. Although the Project Team decided not to purchase the Diamond Shamrock system, key information was obtained from Diamond Shamrock that has been incorporated into the Celanese system. Obviously the reevaluation of the Diamond Shamrock system resulted in unanticipated expenses by our Charlotte System group.

7. The estimated cost for developing the computer software package required to conduct sophisticated correlations of medical, exposure and work history data has been increased from $75M to $125M. Such correlation of data will greatly facilitate conducting future epidemiological studies. This cost increase has resulted entirely due to an improved understanding of epidemiological requirements.

8. A $120M contingency has also been included in the revision. No contingency funds were included in the original RFA. This contingency is added to cover unknowns, escalations, and deviations in costs due to research work uncertainties.

9. Due to a long delay in hiring a Company Medical Director, the Project Team has extended the consulting agreement of Dr. Irv Tabershaw for an additional $25M. These additional funds include the cost (approximately $10M) of developing a training program for the nurses on coding medical data.

10. The estimate for temporary clerical cost in obtaining key work history data from the personnel records on a one-time basis has been increased from $5M to $10M. This cost will be split among each of the plants.

4. REVISED COST AND EXPENDITURE SCHEDULE:

Attachment A provides a comparison between the original RFA and revised costs. This revision has been approved by Dr. L. Starr, Dr. E. M. Dixon and Mr. M. Samek. As Attachment A indiciates, the Corporate Department of Environmental Health and Safety Affairs (DEHSA) has agreed to fund approximately half of the revised Project cost. Once implemented in the Chemical Company, the program will be implemented Corporate-wide.

Attachment B summarizes the revised expenditure schedule.

Attachment C summarizes operating costs.

5. ALTERNATIVE:

As of the end of 1979, $175M has been spent (i.e., $100M Chemical Company and $75M DEHSA). The remaining approved funds (i.e., $180M Chemical Company and $125M DEHSA) are scheduled to be spent during the remainder of 1979 and 1980. If the revised funds are not approved, the project will be completed on schedule by the end of 1980. However, those key proposed program components, outlined in the discussion section above would not be included. In addition, the portion of the computer program designed to perform sophisticated correlations and manipulations of medical, exposure, work history data (i.e., the epidemiological reporting function) would have to be drastically curtailed. This reduced capability of the epidemiological module would pose significant problems in monitoring the health experience of groups of employees with a common chemical exposure or work history. The system would clearly be inadequate based on the experience from the first year of the mobile van health screening program.

ATTACHMENT A

COMPARISON OF COSTS SM
(Chemical Company Plus DEHSA)

	Original RFA	This Revision	Total New Cost
1. Computer Development			
. Medical	275*	40	315*
. Exposure/Work History	150*	75	225*
. Epidemiological Reporting System	75*	50	125*
. Hearing Conservation	-	75	75*
. Contingency	-	40	40*
. Management factor for escalation and research work uncertainty	-	80	80***
2. Consultant	25	25	50**
3. Temporary Clerk	5	5	10
TOTAL	530	390	920
CCC	280	230	510

* One-half of expense paid by Corporate Department of Environmental Health and Safety Affairs (DEHSA).

** $30M paid by CCC and $20M paid by DEHSA.

*** Chemical Company Management contingency.

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ATTACHMENT B

CELANESE CHEMICAL COMPANY PORTION

EXPENDITURE SCHEDULE OF REVISED FUNDS
($M)

1979		
. Consultant (already spent)	25	
. Computer Development	75	
		100
1980		
. Computer Development	200	
. Purchase/Installation of Impace Noise Ccmputer System	37	
. Contingency	10	
. Temporary Clerk	10	
		257
1981		
. Computer Development	58	
. Consultant	5	
. Contingency	10	
. Management Contingency Factor	80	
		153
	Total	510

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ATTACHMENT C

CHEMICAL COMPANY ANNUAL OPERATIONAL COSTS
($M)

Computer	45	
Additional Headcount	310	
Medical Examination	300	(including cost for time away from the job and assuming 100% employee participation)
Consultant**	5	
TOTAL	660	

* Includes 9 additional headcounts (1 Dallas-based physician with secretary; 5 registered nurses; and 2 clerks).

** Does not include the cost for company-wide mortality studies.