

TO		FIELD POINT OR DEPT. & BLDG. NO.	DATE YOUR LETTER
Distribution			
FROM	J.A. Klupar	Cleveland, Dept. 5450	DATE THIS LETTER 6/29/76
SUBJECT			

**VCM Personnel Monitoring - Actual Vs. Potential
In Mask Monitoring**

Last February each PVC plant was asked to report on its work on monitoring inside respirator masks. The purpose of this work was to obtain data to justify raising the lower alarm level from 1 ppm to 2 ppm or more. This would enable a man to spend more time out of the mask and still maintain a 1 ppm TWA.

The data has been reviewed and it was decided that monitoring work inside the mask should be continued only at Avon Lake GCP. Other plants are no longer requested to perform in mask monitoring.

The Avon Lake latex plant has been operating successfully for the past few weeks with the lower level alarm set at 2 ppm. During this period 21 monitorings inside the mask averaged 0.21 ppm. All except one were less than 1 ppm. Other plants wishing to raise the lower level alarm above 1 ppm should submit a request with justification for review.

Several plants have asked if the Bendix flasher method is equivalent to the NIOSH carbon disulfide method. Paul Zakriski expects to publish a report around August 1 comparing the two methods for monitoring 1 ppm VCM over a 6 hr. period.

J.A. Klupar
J.A. Klupar

JAK:cj

Distribution

C.L. Woods-B.W. Holdman
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NGC 15459

BF Goodrich**INTER-ORGANIZATION CORRESPONDENCE**

TO	H. Waltemate	FIELD POINT OR DEPT. & BLDG. NO. Cleveland Chemical	DATE YOUR LETTER
FROM	T. S. Bialke	FIELD POINT OR DEPT. & BLDG. NO. Akron - D/0020, 5-H	DATE THIS LETTER 12-23-77
SUBJECT	AVON LAKE GENERAL CHEMICAL GAS CHROMATOGRAPH REVIEW		

DEC 28 1977

I am writing to reply to your December 16, 1977 request to review the subject EA. I feel that I am not qualified to comment on the computer requirements.

The purchase of the gas chromatograph should not be justified on health grounds for the following reasons:

1. There is no loss of sample integrity or in the accuracy of results from shipping the sample tubes to Brecksville or holding the samples under refrigeration. Dr. Paul Zakriski, Brecksville Environmental Laboratory, can be contacted for confirmation.
2. Individual plants have been requested to develop their own capabilities to do routine environmental analysis. Routine environmental analyses are those required by law or high use volume chemicals and such analysis as directed by the Environmental Health Department. The only routine sampling that ALGC is required to do at this time and needs the use of a gas chromatograph is the vinyl chloride monitoring. Instrumentation is presently available at ALGC for this purpose.

Other exposures that ALGC has that are done on a gas chromatograph are acrylonitrile, vinylidene chloride and pyridine, none of which are required on a routine basis. The exposures to acrylonitrile and vinylidene chloride in the plant are infrequent. Sampling conducted in the past has shown that acrylonitrile exposures are ≤ 1.0 ppm with some short term exposures of up to 6.5 ppm. This data would indicate that a routine AN monitoring program is not necessary at this time.

VDC is used in approximately 2 charges/month. Pyridine has been monitored in the lab and shown to be less than 2.2 ppm, below the TLV of 5 ppm. Again, there is no legal requirement for routine sampling for either of these compounds, therefore routine sampling is not recommended.

Non-routine sampling, that is, sampling to characterize a process or its change, or sampling to evaluate a potential exposure or a new control can and should be accomplished through the Brecksville Environmental Health Laboratory.

Tim
Note & return.

T. S. Bialke

NGC 15460

December 16, 1977

TO; T. S. Bialke
E. B. Katzenmeyer, Jr.

Re: ALGC E.A. for Personnel Monitoring Gas Chromatograph and Computer

As per my November 28, 1977 letter, I am sending you a copy of the E.A. for your approval. I plan to hold the E.A. until I receive your input on their proposal.

I would appreciate a prompt response.

H. Waltemate
H. Waltemate

HW/pl

Attachment

cc: J. A. Klupar (please comment also) ✓
W. T. Gunning

HW -

12/20/77

I cannot disagree in principle with this request. It is similar to the PTWN request for \$12,900. ALGC has added about \$11,000 (mostly the computer) to come up with \$30,000. I recommend that this EA be approved. jak

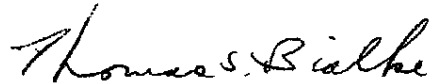
NGC 15461

DEC 19 1977

2.

3. The development of new analytical methods is the responsibility of the Brecksville Research and Development Center and the Environmental Laboratory. This aspect of the E.A. should be properly addressed by Dr. Paul Zakriski.

If I can be of further assistance in this matter, please let me know.


Thomas S. Bialke
Industrial Hygienist

v

cc: E.W. Harrington
W.C. Holbrook
P. Zakriski
H.W. Dietz/E.B. Katzenmeyer, Jr.
R. Rylands

NGC 15462

BFGoodrich Chemical Division

EXECUTIVE AUTHORIZATION

DIVISION Chemical	LOCATION Avon Lake General Chemical Plant	DJ NO.	E. A. NUMBER
DEPT. NAME & NUMBER Quality Control Laboratory-D/5658	DATE 12-5-77	E. A. AMOUNT \$30,000	

SUBJECT (Describe briefly the transaction requiring executive approval)

Purchase Personnel Monitoring Gas Chromatograph and Computer

PURPOSE OF PROPOSAL (Explain what will be accomplished)

Health
Develop New Analytical Methods
Replacement

EXPLANATION OF PROPOSAL (Explain need of proposal and method of accomplishment. Do not include cost data here.)

At the present time we monitor plant personnel for exposure to vinyl chloride utilizing a gas chromatograph committed to this single analysis and an old Wang minicomputer for data reduction. It is necessary that we provide additional analytical equipment and a larger data handling system so that we may carry out other required analyses and expand our computer capabilities.

The approval of this project will provide instrumentation which will allow us to carry out the analyses now required. In addition, it will provide an adequate data reduction system with room for future expansion.

The net effect of this project is that our laboratory will have the capability to monitor plant personnel for exposure to many other chemicals plus the ability to measure residual nitrogen bearing compounds in our plant products. We will also have the computer capacity necessary to handle all of our gas chromatography calculations plus other time consuming management programs. All of these needs and advantages have been detailed in Exhibit "A" and the Scope Summary.

The complete proposal calls for the purchase of a gas chromatograph equipped with flame ionization detectors, a nitrogen/phosphorus detector and an autosampler plus a small computer equipped with dual mini diskette drives.

<i>J. H. Desrosiers</i> ORIGINATOR'S OR SPONSOR'S SIGNATURE			5658 DEPT.		12-5-77 DATE	
PLANT APPROVALS			CLEVELAND APPROVALS			
TITLE	SIGNATURE	DATE	TITLE	SIGNATURE	DATE	
<i>Proposed Senior Mgr.</i>	<i>R. W. McKey</i>	<i>12-13-77</i>	<i>Quality Assurance Mgr.</i>	<i>J. M. Whitney</i>	<i>12-1</i>	
<i>SA SAFETY EXP.</i>	<i>W. T. Gunning</i>	<i>12-14-77</i>			<i>12-1</i>	
<i>Acc'tg. Mgr.</i>	<i>[Signature]</i>	<i>12-14-77</i>				
<i>Exec. Mgr.</i>	<i>[Signature]</i>	<i>12-14-77</i>				
Plant Mgr.	<i>R. N. Ryland</i>	<i>12/14/77</i>	Controller			
			Div. V.P.			
			Div. President			

NGC 15463

TO		DATE YOUR LETTER
Don Desrosiers	ALGC - Professional Services	
FROM		DATE THIS LETTER
Mike Manges	ALGC - Safety Department	8-1-77
SUBJECT		

Exhibit "A"

Need for Additional Laboratory Services

With the ever growing list of chemical standards I feel the ALGC laboratory must develop the analytical capability to perform the NIOSH approved carbon disulfide (CS₂) extraction technique for airborne hydrocarbons. At the present time all non vinyl chloride (VCL) samples collected at ALGC which require gas chromatography analyses are shipped to the Corporate Environmental Laboratory at Brecksville. The Brecksville lab requests two weeks notice before any sampling and requires a minimum of two additional weeks before reporting the data back to the submitting plant. While the lead time required can be scheduled, with some difficulty, I am particularly concerned about the accuracy of the data due to the length of time between sampling and actual analysis. Analyzing the samples in the ALGC lab will insure the integrity of the data. The carbon disulfide extraction method can be used immediately for vinylidene chloride, acrylonitrile and pyridine monitoring. Community monitoring samples for vinyl chloride and other pollutants may also be analyzed by this technique. By employing this method we will be able to collect twenty-four (24) hour community samples as recommended by Ken Kaminski in his correspondence to M. D. Rider of 7-20-77. The carbon disulfide extraction method is also suitable as a back-up for the Bendix flasher technique. I feel that having the capability to perform the carbon disulfide extraction technique will greatly assist our OSHA and EPA compliance programs. Therefore, I am requesting that you take the steps necessary to acquire the required equipment and train the needed technicians. If I may be of any further assistance, please call.

M. C. Manges

bs

SCOPE SUMMARY

The purpose of this EA is twofold. It is intended firstly to provide additional instrumentation in the gas chromatography lab which will meet two specific and unique applications. Secondly, it will provide appropriate data reduction equipment which will not only meet all of our gas chromatography needs but will allow us to carry out certain technical and management programs. The programs are designed to minimize expenditures, reduce the budget to the lowest possible level and reduce testing error thus improving departmental performance. The data reduction system chosen will be expandable to meet future needs. These two purposes are defined in more detail in the following paragraphs.

The ALGC laboratory has been asked to provide two distinct chromatographic services. The first, as described in Exhibit "A", is that we develop the analytical capability to perform the NIOSH approved carbon disulfide extraction technique for airborne hydrocarbons. We have been asked to do this in order to assist the plant in meeting OSHA and EPA compliance programs. The second, as requested by Latex Technical and La Sales, is that we develop the ability to measure residual nitrogen bearing compounds on our Hycar product line. An example of this would be residual acrylamide and residual n-methylolacrylamide in 2600X120 sold to Johnson and Johnson for baby diaper liners. This determination requires a nitrogen/phosphorus detector. In order to determine the best to meet these dual needs, we met with several suppliers of chromatographic equipment. We found that the Varian 3700, equipped with dual flame ionization detectors, an autosampler and a nitrogen/phosphorus detector would allow us to meet both needs. This would immediately eliminate the need of purchasing two separate instruments. The major advantages of the Varian 3700 over competitive equipment are as follows. The dual injection ports on the Varian 3700 are far enough apart that when one is covered (taken up) by the autosampler the other may be readily used. We will use the other injection port for our latex work with the nitrogen/phosphorus detector. This is a major problem with competitive equipment where the injection ports are too close together. The Varian autosampler injection system uses a dynamic, controlled-pressure purge rather than the traditional aspirating-type syringe injection. This means the dangerous fumes of carbon disulfide, which is used in the NIOSH extraction technique, are confined within the instrument at all times. It will not be necessary to vent the entire chromatograph as would be with competitive equipment in order to protect the operator(s) from exposure to this hazardous chemical.

The ALGC laboratory currently uses an old Wang microcomputer, which was salvaged from a phased out production project, to handle all gas chromatography calculations. It does not have memory capacity to handle programs exceeding basic type calculations. In addition to this, it is becoming difficult and costly to maintain. For example, our last service call cost \$648.83 and Wang will no longer guarantee the service. Both the Wang representative and our own computer group recommend that the unit be phased out of service in favor of a new microcomputer or minicomputer of appropriate design. Although a Wang replacement is specified in the "Detail Estimate", our computer group may recommend an alternative system such as an Imsai or a Digital since these systems provide more RAM memory and more floppy disk capacity at equivalent cost. This would allow for greater use of the equipment at the present time plus more future expansion.

Scope Summary (cont'd)

The replacement unit will be used to run several other technical and management programs in addition to all gas chromatography calculations. Examples of these applications are as follows. Expenditures will be minimized by using the computer to carry out, in-house, programs currently run on time shared computers and by computerizing overtime records. Budgets and subsequent expenditures will be reduced to the lowest possible level by utilizing the computer to measure operator efficiency determine training (work organization) needs, determine manpower needs and balance workloads between classifications. Testing errors will be reduced by utilizing the computer to calculate HBR (half blind replicate) data, determine training (procedural) needs, establish experimental designs and evaluate experimental data and calculate test errors. A small computer has many applications in a large lab such as that at ALGC.

Personnel Monitoring Chromatograph
ALGC Project No. 652
DGD 12-12-77

NGC 15466

DETAIL ESTIMATE

MADE BY D. G. Desrochers		DATE 12-5-77	REQUESTED C. R. Yockey	DATE 8-15-77	SHEET NO 1	SHEET OF 1
DEPARTMENT 5658	BUILDING 431	FLOOR Main	CHECKED BY L. F. Krulik	G. P. O.	DATE 12-6-77	E. A. NUMBER

PLANT

Avon Lake General Chemical Plant

TITLE

DRAWING NUMBER

Purchase Personnel Monitoring Gas Chromatograph and Computer

ITEM NO.	DESCRIPTION	NO. REQ'D	UNIT COST	ESTIMATED COST (IN WHOLE DOLLARS ONLY)		
				MATERIAL	LABOR	TOT
1.	Basic 3700 Gas Chromatograph for Ionization Detectors, Catalog No. 00-374000-00	1	\$3,270 00	\$3,270	-	\$3,270
2.	1/4" Flash Injector Bodies, Catalog No. 1060	2	NC	NC	-	
3.	Flame Ionization Detectors, Catalog No. 2011	2	435 00	870	-	
4.	Electrometer Module, Catalog No. 6010	1	630 00	630	-	
5.	Dual Flameout, Reignite Kit, Catalog No. 6050	1	425 00	425	-	
6.	Automatic Linear Temperature Programmer Modul, Catalog No. 5010	1	1,015 00	1,015	-	1,015
7.	Self-Service Kit, Catalog No. 8080	1	55 00	55	-	
8.	Model 8000 Auto Sampler, Catalog No. 00-804000-00	1	4,955 00	4,955	-	4,955
9.	Vial Segment Encoder and Visual Display, Catalog No. 96-000100-00	1	460 00	460	-	
10.	Cable, Catalog No. 02-001978-00	1	45 00	45	-	
11.	Nitrogen/Phosphorus Detector, Catalog No. BG-642572-00	1	3,000 00	3,000	-	3,000
12.	Personal Computing System with 16 K Bytes, 9" CRT (64x16 Upper/Lower Case Display), Model 2200-PCS11-4	1	7,800 00	7,800	-	7,800
13.	Additional Mini Diskette Drive	1	1,000 00	1,000	-	1,000
14.	Output Writer (156 Col./15 CPS), Model No. 2201L	1	3,400 00	3,400	-	3,400
15.	Controller for Option 61 Output Writer	1	400 00	400	-	
	Sub Total			\$27,325	-	\$27,325
	Contingency			2,675	-	2,675
	Total			\$30,000	-	\$30,000

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