



INTER-OFFICE CORRESPONDENCE

To: H. M. Finneran
A. G. Baker
R. E. Sourwine

Date: February 3, 1982
From: S. P. Illes
Location: 5 West
Subject: Respirator Variances

Attached is recent information concerning variances to the OSHA respirator regulation which may influence our thinking in this area.

The memorandum from LaRoe, Winn and Moerman states that OSHA is not receptive to respirator variance applications. The most appropriate course of action for obtaining regulatory approval for use of the mouthpiece respirator for work purposes is to obtain a NIOSH approval. American Optical made an application to NIOSH in 1980, but it was returned as incomplete with NIOSH requesting the manufacturer to supply data from Chlorine Institute research. Norton also made an unsuccessful application to NIOSH in 1980.

The Chlorine Institute research to which NIOSH is referring is a comparison of protection factors obtainable from the mouthpiece and the half face piece respirators and sensory perception studies. The Chlorine Institute Respirator Task Force has completed Phase I of the protection factors study and a draft report is being written. The sensory perception studies were not funded by the Chlorine Institute. Dow conducted an uncontrolled test of taste threshold, but did not complete the work. Sensory perception (taste threshold in the case of using the mouthpiece respirator for chlorine) is important to NIOSH because it determines whether a worker would have adequate warning of cartridge expiration before being overexposed. It is unlikely that NIOSH will approve an air purifying respirator without sensory perception data.

Also attached is correspondence between Diamond Shamrock and OSHA concerning a variance for the 3M mercury respirator and MSA Mersorb for protection against elemental mercury vapors. The correspondence confirms the two points made in the legal opinion:

- OSHA will refer respirator variance applicants to NIOSH for certification.
- NIOSH will not certify air purifying devices for gases or vapors that do not have adequate sensory warning properties.

The OSHA respirator standard and NIOSH certification regulations are scheduled for revision this year which may change the above positions.

Dow had been negotiating with OSHA for a variance to use the mouthpiece respirator for work purposes. OSHA has not directed them to apply to NIOSH for certification, but has requested additional information and in particular the data being developed by the Chlorine Institute referenced above and sensory threshold data. Dow has compared the protection factors of the half

face piece and mouthpiece respirators in studies separate from the Chlorine Institute. They will present this data to OSHA shortly.

Stephen P. Illies
S. P. Illies

/syr

cc: F. C. Dehn
Z. G. Bell
C. H. Powell
T. E. Baldauff

Attachments

LAROE, WINN & MOERMAN

ATTORNEYS AT LAW
INVESTMENT BUILDING
1511 K STREET, N.W.
WASHINGTON, D.C. 20005

W. LAROE, JR. (202) 462-1057
ARTHUR L. WINN
JOSEPH E. MOERMAN
PAUL J. DONOVAN
JOSEPH F. HADLEY, JR.
DEBRA D. ROCHMAN

TELEPHONE
202 528-2785

TELECOPIER
202 528-2087

December 28, 1981

Mr. James H. Doyle
Technical Service Engineer
The Chlorine Institute, Inc.
342 Madison Avenue
New York, NY 10173

Re: The Chlorine Institute - Chlorine Escape
Respirator

Dear Jim:

Pursuant to your instructions we have reviewed the alternatives available to the Institute vis-a-vis having the mouth-bit respirator approved for routine use. A memorandum discussing the details is attached.

Contrary to what we expected to find, in our memorandum we report that OSHA is thoroughly disinclined to consider a variance in this situation. In confirming this point with our personal contacts with the Agency, they continuously fell back on the "that's NIOSH's job" and "OSHA has never granted a respirator variance" (something I can confirm from previous efforts not involving chlorine). From what we have learned, therefore, the only presently acceptable course of action, that is, as far as the two agencies are concerned, is to support the manufacturer's application for expanded use of its already-certified product. If American Optical is the manufacturer of interest in this case, it would seem to us that, based on their previous efforts on behalf of industry, the Institute should have little difficulty in convincing American Optical to reapply for an extension of use.

If there is anything further that you presently want us to do on this project, please do not hesitate to let us know.

Cordially yours,

Joe
Joseph E. Hadley, Jr.

cc: Mr. Robert M. Mitchell, Jr.
Mr. Edmund J. Laubusch
E. McIntosh Cover, Esquire

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LAROE WINN & MOERMAN
ATTORNEYS AT LAW
INVESTMENT BUILDING
1514 K STREET, N.W.
WASHINGTON, D.C. 20005

MEMORANDUM

FROM: Stanley E. Hilton
TO: Joseph E. Hadley, Jr.
RE: Respirator Standards and Exposure to Chlorine

SUMMARY QUESTION: What course of action should The Chlorine Institute pursue to extend the approved uses of the chlorine "escape" respirator to routine, everyday workplace situations?

SUMMARY ANSWER: An application for an extension of approved uses for a chlorine "escape" respirator should be filed with the NIOSH Division of Safety Research in Morgantown, West Virginia by the respirator manufacturer.

DISCUSSION

I have reviewed the applicable statutory and regulatory requirements and talked with various individuals at OSHA and NIOSH concerning the possibility of utilizing the chlorine "escape" respirator for routine, everyday use. The relevant statutes and regulations indicate that, in general, a person interested in changing or deviating from an occupational safety and health standard can seek a certification from NIOSH or a variance from OSHA. Nevertheless, the individuals with whom I spoke have unanimously agreed that the proper procedure for

a party wishing to obtain an extension of approved respirator uses is to seek a certification from NIOSH. If this certification is granted, OSHA will recognize this NIOSH approval, and such an extension can be implemented immediately.

OSHA

Section 6(d) of the Occupational Safety and Health Act of 1970^{1/} (hereinafter the Act) empowers OSHA, acting upon an employer's application,^{2/} to grant a permanent variance from an occupational safety and health standard. The employer's application will be approved if he

... has demonstrated by a preponderance of the evidence that the conditions, practices, means, methods, operations, or processes used or proposed to be used by an employer will provide employment and places of employment to his employees which are as safe and healthful as those which would prevail if he complied with the standard. 29 U.S.C. §655(d).

A permanent variance is effective indefinitely unless it is revoked upon application by an employer or employee, or by

^{1/} 29 U.S.C. §655(d). Temporary variances can also be granted under 29 U.S.C. §655(b)(6)(A). The basis for the granting of a temporary variance is that the employer cannot comply with the standard by the date on which the standard is to become effective.

^{2/} A typical application is set forth in Appendix A to this memorandum. Also, during the interval between the time an application is filed and OSHA's decision, the employer can apply for an interim variance.

OSHA acting on its own initiative.^{3/} The variance procedure is most commonly utilized when an employer is unable to comply with an occupational safety and health standard due to particular circumstances existing at the workplace but an alternative to specific compliance will achieve the same result.^{4/}

A typical situation involving the use of the variance process occurred in 1977 when the Inmont Corporation of Chicago, Illinois applied for a variance. Section 1910.106 (h)(4)(i)(c) of OSHA's Health and Safety Standards requires that storage tanks inside of buildings be located at or above grade level with adequate drainage and that they be separated from the processing area by construction having a fire resistance rating of at least two hours. The purpose of the standard is to prevent fire and/or explosion by preventing vapors which are heavier than air from accumulating in spaces below grade level or pits. Due to insufficient storage space, Inmont was unable to comply with the standard and applied for a variance

^{3/} 29 U.S.C. §655(d). The variance cannot be revoked by OSHA prior to the seventh month after the date of its issuance.

^{4/} In some situations, the employer is able to comply with a standard but desires a variance on the grounds that the existing safety precautions are at least equal to those found within the standard and that to conform to the standard would be unnecessary or even detrimental to worker safety. For example, the Stanley Works Corporation applied for and received a variance from the color coding requirements of 29 C.F.R. 1910.144. OSHA agreed that the color coding system at the Stanley Works locations accomplished the same safety precautions as desired in the standard and that to require compliance was unnecessary and could possibly lead to employee confusion.

on the basis that an exhaust ventilation system which it had installed adequately protected the employees. OSHA granted the variance, finding that the ventilation system provided fire and explosion protection at least equal to that provided by the standard.^{5/} This case is typical of the many variances which have been granted by OSHA, that is, the employer was unable to comply with a particular standard but provided a level of safety at least equivalent to that provided in the standard.

7 Even though the chlorine "escape" respirator does not obviously fit the variance requirements of the statute, I spoke extensively with Mr. James Concannon, Director of OSHA's Office of Variance Determination, regarding the possibility of obtaining a variance to permit the chlorine "escape" respirator to be used in routine, everyday workplace situations. Mr. Concannon was very straight-forward and firm in his opinion: the proper procedure for a party desiring an extension of approved uses for a respirator is to apply to NIOSH for a certification. Mr. Concannon indicated that OSHA's Office of Variance Determination would not act on an application for a variance concerning a respirator used to protect workers

^{5/} For a listing of the numerous variances which have been granted by OSHA, including the Inmont variance, see BNA OSH REP., Reference File, Section 35.

against chlorine exposure. If OSHA were to grant such a variance, the Agency feels it would be infringing on the NIOSH function as OSHA's research branch in this area and on NIOSH's role as the government agency by which new respirator uses are to be approved.^{6/}

OSHA's position is that a variance is to be used to accomodate an employer's inability to comply with a safety and health standard while preserving employee safety concerns inherent in a safety and health standard and is not designed to expand a respirator's approved uses. In fact, OSHA's Office of Variance Determination has never granted a variance for a respirator. According to Mr. Concannon, any respirator-related application to the Office of Variance Determination would either be returned to the applicant or forwarded to the NIOSH Research Center in Morgantown, West Virginia.

My conversation with Mr. Concannon confirms an earlier discussion with Mr. Frank Tipton of OSHA's Health Standards Division.^{7/} Mr. Tipton indicated that the appropriate course of action in the present situation would be to apply to NIOSH for certification of the new use. If NIOSH approved the respirator for a new use, OSHA would then recognize the NIOSH action under 29 C.F.R. Part 1910.134(b)(11), which

^{6/} Conversation with Mr. James Concannon, November 17, 1981.

^{7/} Conversation with Mr. Frank Tipton, November 9, 1981.

M E M O R A N D U M

LAROE WINN & MOERMAN

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provides:

Approved or accepted respirators shall be used when they are available. The respirator furnished shall provide adequate respiratory protection against a particular hazard for which it is designed in accordance with standards established by competent authorities8/

Mr. Tipton in effect agreed with Mr. Concannon's conclusion that an application to OSHA for a variance would be inappropriate in this particular situation. Both gentlemen stressed that NIOSH is the proper government agency for determining the effectiveness and adequacy of workplace respirators.

NIOSH

The NIOSH Division of Safety Research is located in Morgantown, West Virginia. Within this division is a Testing.

8/ Since NIOSH is only a research agency and has no enforcement powers of its own, OSHA is not required to permit an expanded respirator use simply on the basis of a NIOSH certification. However, OSHA will recognize the NIOSH certification unless information is received after the NIOSH testing process has been completed which indicates that the certification was inappropriate. According to Mr. Sheldon Wiener of OSHA's Health Standards Division, this latter situation will arise only if information dealing with the equipment's "fit" on an employee indicates that a health and safety problem could occur. The NIOSH testing does not take the "fit factor" into account. Conversation with Mr. Sheldon Wiener, December 3, 1981.

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and Certification Branch which is responsible for approving workplace respirators. In May of 1980, the Testing and Certification Branch announced a new application procedure for respirator approvals. Under this procedure, a respirator manufacturer is to submit to NIOSH a detailed application for either approval of a newly manufactured respirator or for an extension of approval for an already-certified respirator.^{9/} In either situation, NIOSH will correspond only with the respirator manufacturer.^{10/} After receipt of the application, NIOSH will conduct tests and either grant or deny the certification.

Accordingly, I have had several discussions with Mr. Chris Coffi of the NIOSH Division of Safety Research. Mr. Coffi has been directly involved with the attempts to have the chlorine "escape" respirator approved for everyday, routine use. Mr. Coffi stated that in February of 1980, American Optical Corporation, the manufacturer of the "escape" respirator, applied to NIOSH for an extension of approved uses. In September of 1980, NIOSH rejected American Optical's request, stating

^{9/} The various applications are reproduced in Appendix B hereto and are, for the most part, more detailed versions of the applications for respirator use set forth in 30 C.F.R. Part 11. The application procedure under the regulations is set forth in Appendix C. The NIOSH Testing and Certification Branch is following the procedures set forth in the May 1980 format.

^{10/} This practice departs somewhat from the regulations which specify that an applicant can be "an individual, partnership, company, corporation, association or other organization that designs, manufactures, assembles, or controls the assembly of a respirator and who seeks to obtain a certificate of approval for such respirator." 30 C.F.R. Part 11.3(b).

that the data submitted were insufficient. The manufacturer was directed to resubmit the application when more data were available, with NIOSH making direct reference to the research being undertaken by The Chlorine Institute.

Mr. Coffi strongly recommends that, if The Chlorine Institute's data are complete, this information should be forwarded to American Optical. The manufacturer should then submit a letter to NIOSH which in essence states that it is reapplying for the extension of approved uses on the basis of The Chlorine Institute's new information. If this course of action were to be pursued, Mr. Coffi estimates that NIOSH would arrive at a decision within six to eight weeks of receiving American Optical's letter.^{11/}

I also discussed with Mr. Coffi the possibility of The Chlorine Institute or a member company applying to NIOSH for an extension of approved uses. Mr. Coffi said that if the "escape" respirators being used by Institute members are manufactured by American Optical (as he believes to be the case), any application by the Institute or its members would be rejected by NIOSH. As mentioned, the new NIOSH application format specifically states that NIOSH will only correspond with the respirator manufacturer.^{12/}

^{11/} Conversations with Mr. Chris Coffi, November 8, 9, and 10, 1981.

^{12/} As discussed in footnote 8 *supra*, this practice departs somewhat from the regulations in 30 C.F.R. Part 11.3. However, Mr. Coffi emphasized that NIOSH will deal only with the manufacturer.

Mr. Coffi indicated that if The Chlorine Institute or a member company desires to apply to NIOSH for an extension of approved uses concerning "escape" respirators which are not manufactured by American Optical, the manufacturer's name must not appear on the respirator. In essence, the Institute or member company would be regarded as the manufacturer. If this course of action were pursued, a detailed application would have to be submitted, and Mr. Coffi estimates that a decision would not be reached by NIOSH for several months.

Thus, the most advisable course of action seems to be for The Chlorine Institute to relay its test data to the American Optical Corporation (perhaps with a copy to NIOSH) and for the manufacturer to then write an appropriate letter to NIOSH.^{13/}

^{13/} NIOSH approval is essential in this matter as 29 C.F.R. Part 1910.134 states that "[a]pproved or accepted respirators shall be used when they are available." In light of the fact that approved chlorine respirators are available for routine workplace situations, it is highly unlikely that OSHA would permit the "escape" respirator to be used in everyday workplace situations without NIOSH approval.

APPENDIX A

MODEL OF AN APPLICATION FOR VARIANCE FROM STANDARDS ADOPTED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

The following is a "model" of an application for a variance from a standard or standards issued by the Occupational Safety and Health Administration. The "model," prepared by OSHA, contains all of the required information for a variance application listed in the regulations that appear on the preceding pages.

The "model" letter is intended only to serve as an example of what a correct variance application should look like.

Assistant Secretary for Occupational Safety and Health
U.S. Department of Labor
Washington, D.C. 20210

Dear Sir:

Pursuant to Section 6 (d) of the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1596: 29 USC .655), respectfully requests a permanent variance from the requirements of 29 C.F.R. 1910.179 (b) (4), concerning wind indicator on the outdoor bridge of a Gantry Crane.

(1) Applicant

(2) Place of employment — Same as (1)

(3) has a Gantry Crane which operates beside a slip for unloading shallow draft barges. It currently is used only for unloading salt barges, usually about twice a year. Because of the location of our operation and the experience we have had with high wind conditions, recognizes the importance for monitoring wind conditions. As a result, our plant has two wind indicating devices with visual and automatic recording devices. We have a well established plan for monitoring Federal Weather Bureau reports and emergency plans of action for pending high winds. The key wind indicating device is located in the Shift Superintendent's office. A Shift Superintendent is on duty around the clock, seven days a week and is responsible for the plant. He keeps a close watch on the wind conditions and also monitors weather forecasts at least three times during each eight-hour period. A written record is kept of the weather conditions. If there are any changes in wind conditions or anticipated changes due to approaching bad weather, the wind indicators and weather forecast are monitored continuously. Because of these well established policies and the limited use of the Gantry, we feel that our plan would offer a safer operation. In addition, we feel that the installation of a wind indicating device on the Gantry Crane would not be feasible because of conditions which tend to cause malfunction. Our past experience has verified this consistently. The Gantry Crane is very close to the molten sulfur pits and salt

water. The close proximity to these agents creates a corrosive condition which would make the wind indicator inoperative soon after installation. We feel our monitoring and early warning system is more effective and safe than is the use of an infrequently used and difficult to maintain wind velocity instrument on the crane.

(4) Due to the corrosive conditions present around the Gantry Crane, feels that our established procedures would give more reliable information than an indicator on the crane. Therefore, we feel that this would insure the safety of the crane and operator better by following our procedures.

Respectfully submitted,

Manager

(5) This is to certify that a copy of the variance from Standard 1910.179 (b) 4 requested by has been posted in an appropriate place for employees to examine. Also, an explanation of their right to send comments or petition for a hearing are explained on an attached sheet. A copy of the variance application was also given to the authorized employee representative.

Posted on _____, 19

Manager

(6) TO ALL EMPLOYEES

The attached form is a copy of the variance application submitted by for a variance from Standard 1910.179 (b) 4. This is to inform you that you may request a hearing with the Assistant Secretary for Occupational Safety and Health, U.S. Department of Labor, according to Standard 1905.15, Request for Hearing, if you object to the variance requested. This request must be filed in writing.

Manager,

(7) also respectfully requests that an interim order be granted to allow operation of the Gantry Crane without the indicator until action is taken on the variance application. We feel that the safety of the employees will be guaranteed because we do have wind indicators being monitored at our plant and the Gantry operator would be promptly informed before wind velocities rose or approached a dangerous level.

Manager,

May 2, 1980

Revised Format

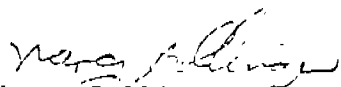
Reference: My letter of February 27, 1980, and the NIOSH/Respirator
Manufacturers Meeting held April 24, 1980

To Respirator Certification Applicants:

On April 24, 1980, a meeting was held at the Morgantown NIOSH facility to discuss the new application format. At this meeting, NIOSH announced several changes. The ensuing discussion with the manufacturer's representatives revealed several other necessary modifications and improvements. These changes have been incorporated in this revised format.

NIOSH requests that effective June 2, 1980, all applications contain all of the information listed in the attached format using the exact order and labelling specified by the format. This will enable us to evaluate submissions in a more expeditious manner.

Sincerely yours, -


Nancy Bollinger
Chemist, Respirator Section
Testing and Certification Branch
Division of Safety Research

Enclosure

Introduction

This format has been prepared to specify the NIOSH requirements for applications for approval and extension of approval. All applications should contain the information listed in the application format. All information should be itemized exactly as it is in these instructions. For example, hose lengths of supplied air respirators should be listed as item 11(D). Material submitted as a part of the application should be labelled with a cover sheet as follows:

- Presubmission Data - Appendix A
- Label Drafts - Appendix B
- User Instructions - Appendix C
- Parts Lists - Appendix D
- Drawings - Appendix E
- Quality Control Plans - Appendix F

Incomplete applications will not be accepted. Applications complying with this format will receive priority attention.

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210



Reply to the Attention of:

W 120 101

Mr. John B. Talpas
Diamond Shamrock Corporation
1149 Ellsworth Drive
Pasadena, Texas 77501

Dear Mr. Talpas:

As we stated in our letter of July 28, 1981 concerning your request for variance from Section 1910.134(b)(11) of the Occupational Safety and Health Standards, we would be in contact with you after our technical staff reviewed the material which you submitted to advise you what further testing might be necessary in order to obtain approval of one or both of the respirators. However, the National Institute for Occupational Safety and Health (NIOSH) does not have test schedules for, and therefore cannot approve, either of the type respirators you suggest using since a criterion for approval of chemical cartridge type air-purifying respirators for protection against a specified substance is that the substance have odor warning properties, and mercury vapor cannot be detected by sensory perception.

Although the Office of Variance Determination cannot take any further action on your request for variance for reasons previously explained, please be advised that the Directorate of Health Standards Development has under consideration the entire issue of respiratory protection. They are, in fact preparing an advance notice of proposed rulemaking which will appear in the Federal Register when completed and approved. This notice will list a series of issues pertaining to 29 CFR 1910.134 and solicit comments on them and on any other relevant issues. For further details, please contact the Office of Physical Agents at this address, or by telephone at (202) 523-7151.

Sincerely,

A handwritten signature in cursive script, reading "James J. Concannon", is written over the typed name.

James J. Concannon
Director
Office of Variance Determination

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Diamond Shamrock

July 16, 1981

James J. Concannon
Director
Office of Variance Determination
Occupational Safety and Health Administration
Washington, D. C. 20210

Dear Mr. Concannon:

Pursuant to our telephone conversation and after careful consideration, Diamond Shamrock wishes to resubmit our request for a permanent variance from the requirements of 29 CFR 1910.134(b)(11). Attached, for your convenience is a copy of our original variance request. This request is being filed pursuant to Section 1905.11 of the OSHA regulations.

Diamond Shamrock Corporation has always taken the position of providing the best possible health and safety work environment for their employees. This request is consistent with that philosophy. Diamond Shamrock has over 80 years of cumulative experience in the operation of 4 mercury cell chlor-alkali plants. Our position is that worker safety is severely compromised by strict adherence to the OSHA respirator regulations.

The use of the respirators, as applied for in our variance request, is adequate to protect worker health, while not compromising worker safety.

I would be happy to discuss this matter further, if necessary, otherwise I await your favorable response to our request.

Sincerely yours,

John B. Talpas
Operations Manager
Electro Chemicals Division
Diamond Shamrock Corporation
(214) 659-7204

/ch

Attachment

cc: T. Auchter - U.S. Dept. of Labor

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