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XF: none - I took TGG

TO: Safety Directors, Environmental Coordinators

FROM: T. G. Grumbles
DATE: January 6, 1987

Interoffice Communication

SUBJ: MODELING MEETING

VISTA

I would like to schedule a meeting in the Lake Charles LAB plant conference room on Wednesday, January 21, 1:00-3:00, to continue the planning of our modeling project for emergency releases. A preliminary agenda is below. It will be up to you to determine other personnel from your plant you feel should attend. I believe the attached article has been sent to you before, but it is a good summary of the type method we are developing and offers good advice on developing release scenarios. Please review before the meeting.

PRELIMINARY AGENDA

1. Discussion of Vista Model - M. Heller

   a. Capabilities
   b. Example case(s)
   c. Scenario factors needed for model

2. Discussion of scenarios to model

3. Development of responsibilities and timetable for project

4. Discussion of end product desired

Tom

Thomas G. Grumbles

ajo/9

Attachment

cc T. H. Huffman
R. A. Conrad
L. R. Bauer
J. A. DeBernardi
P. F. Fetizanan
M. J. Heller

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MANUSCRIPT CTR.

EVALUATING POTENTIAL IMPACTS FROM ACCIDENTAL GASEOUS RELEASES OF TOXIC CHEMICALS

ERT Document No. J0620
May 1986

by
David Heinold, Douglas Smith and
Bradley Schwab

ERT, A Resource Engineering Company
696 Virginia Road
Concord, MA 01742

to be presented at the
Environmental Division Program
of the
Summer 1986 Meeting of the American Institute
of Chemical Engineers, Boston - Massachusetts

1581J-0620

26p.

ABSTRACT

During the past year many companies involved with toxic gases have sought an independent evaluation of liability in the event of an accidental release. A detailed methodology is presented with a hypothetical example based on case studies from several recent risk assessments. These demonstrate such typical components of an anlysis as site reconnaissance, accident scenario development, air quality assessment, health impacts potential and remedial action review.

INTRODUCTION

Concern about risks and consequences of accidental releases of hazardous chemicals to the air has increased in recent years. To date, most attention has been focused on large chemical manufacturing facilities where vast amounts of potentially dangerous chemicals are produced, stored and transported. However, even users of relatively small amounts of toxic gases may have legitimate concerns about the risk of an accidental release. Possible reasons include: (1) limited training on the hazards of handling and using toxic gases, (2) potential worker exposure due to improper ventilation system design, (3) potential off-site exposure due to the close proximity of a source to the property boundary. This paper presents a methodology which has been applied to chemical user facilities to help evaluate the level of risk and to design appropriate mitigation measures.

The risk evaluation begins with an environmental audit which includes detailed interviews with plant personnel, on-site inspection of the facility and critical review of toxic gas storage, handling and transport procedures. A site inspection is sometimes the only way that possible safety environmental hazards can be detected. One-on-one interviews provide insight into the knowledge and safety consciousness of those who control the use of toxic gases. A risk assessment of potential consequences of an accidental release is typically comprised of several components: (1) identifying potentially hazardous gases, (2) determining both routine and possible accidental modes of release, (3) estimating release rates for selected cases, (4) locating potentially sensitive receptors, both on-site and off-site, (5) modeling dilution and transport from the source to each receptor, (6) relating resultant concentrations to potential adverse health effects and, (7) evaluating possible mitigation measures.

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Each of these components are discussed in detail along with examples of impact assessment for a hypothetical facility that uses several hazardous gases stored under pressure. Application of this analysis process requires information that is often distributed among several functional groups at a facility. These include health and safety, environmental, and plant operations engineering personnel. It is important to obtain the relevant contributions from each to avoid missing important factual data. Even firms with environmental and safety staff often seek an independent risk assessment from an outside expert to lend credibility to the study and its recommendations.

GENERAL METHODOLOGY

Criteria for a site-specific risk assessment vary with both the type of facility and its setting. The on-site environmental and safety audit of the plant and its operations plays an integral part in establishing these criteria. The concerns of the facility's health and safety personnel usually provide the best starting point in conducting a site review. The first step is to obtain an inventory of toxic gases that are used, or produced at the facility, along with any processes that routinely result in atmospheric emissions. Table 1 provides a checklist for this chemical inventory.

The next step is to identify the types of accidents that could lead to episodic releases. An effective way of doing this is to discuss experience with plant operations personnel and to review historical records for the plant and the industry at large. Table 2 provides samples of the types of accidents that may be considered in the risk assessment.

In some instances, the probability of occurrence for each type of accident may be quantitatively evaluated, although those involving human error have an inherent degree of uncertainty. Formal analysis techniques available include criticality analysis, fan H tree analysis, event tree analysis,

TABLE 1
HAZARDOUS CHEMICAL INVENTORY

Threshold Values for Acute Hazards
- toxic
- explosive
- pyrophoric
- carcinogenic

Storage Conditions
- pressurized gas
- liquified gas
- cryogenic liquid
- volatile liquid or solution

Type and Capacity of Storage Vessel
- portable gas cylinders
- above-ground tanks
- below-ground tanks

Use Rate at Each Location
- delivery route
- central storage
- end use points
- process emission points

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TABLE 2

TYPICAL ACCIDENTS RESULTING IN HAZARDOUS AIR RELEASES

Storage	- fracture of a compressed gas valve - overheating of a gas cylinder - leakage from a worn or corroded valve - collision (e.g., railcar) resulting in a vessel rupture
Process	- runaway reactions - failure of control device - leakage from gas supply line - other upset conditions
Catastrophic	- fire - explosion - severe weather events - earthquakes

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case-consequence analysis and human error analysis [1]. Caution is required in using industry-wide statistics in estimating accident probabilities because they may not fairly represent the site-specific conditions. Therefore, in most instances the list of "worst-case" accidents to be analyzed in the risk assessment is determined subjectively. One practical way is to separate those accidents that are caused by external forces beyond the reasonable control of the facility and its personnel (e.g., sabotage, earthquake, aircraft crash).

Once a set of potential accidents have been defined, the next step is to evaluate the resultant quantity and rate of release. For accidents involving volatile liquids or gases stored under pressure, the rate of release to the atmosphere depends on a variety of physical and thermodynamic properties listed in Table 3 [1]. This data is used as input into specialized models to simulate emissions as a function of time.

The next step is to determine the set of on-site locations at which each type of accidental release is possible and at which of these locations is the potential for on-site and off-site impacts the greatest. At some locations, such as a gas storage facility, several different chemicals may be at risk. It is useful to rank the gases according to acute health impact potential. One method is to compile a score for each chemical, such as the ratio of the initial maximum instantaneous air emission possible to an appropriate measure of the acute toxicity. The impact of the highest-ranked chemical then represents the greatest consequence for a particular release scenario.

Once the hypothetical release has been quantified the potential routes of exposure can be evaluated. The manner in which the chemical is released into the air can have a large effect on the rate of dilution and resultant concentrations. Table 4 provides examples of the various types of release behavior that may be encountered. It is, therefore, important to have the proper dispersion modeling tools to effectively simulate various modes of atmospheric dispersion.

TABLE 3

FACTORS INFLUENCING RELEASE RATE FROM
RUPTURES OF PRESSURIZED
GAS CYLINDERS

- Size, shape and composition of storage vessel
- Size and shape of leaking orifice
- Initial pressure, temperature and amount
- Liquified or compressed gas
- Height of orifice with respect to liquid level
- Specific heats of liquid and vapor
- Densities of liquid and vapor
- Heat of vaporization
- Saturation vapor pressure
- Ambient temperature, wind speed, and humidity
- Compressibility
- Viscosity

TABLE 4

TYPICAL AIRBORNE RELEASES REQUIRING SPECIALIZED MODELING CONSIDERATIONS

- Time varying release
- Evaporation of volatile liquids and solutions
- Sonic jet flow emitted from a critical orifice
- Release of heavier-than-air gases (i.e., higher molecular weight or lower temperature than ambient air)
- Flashing of a liquid aerosol spray forming a cold, dense cloud
- Evaporation of cryogenic pool of liquified gas
- Release into the wake cavity zone of a building and entrainment of contaminated air into ventilation ducts
- Indoor release emitted to the atmosphere through the ventilation system.
- Explosive release of pyrophoric or other highly reactive chemicals

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The principal consideration in the risk assessment is the receptor, i.e., the location where potential human exposure would ultimately occur. The various possible locations for on-site and off-site receptors are shown in Table 5. The potential acute health impacts at each receptor and required safety factors can be evaluated according to health assessment criteria established for each chemical and the expected sensitivity of individuals who may be exposed. (For instance, an acute exposure that may not adversely affect a healthy adult may cause injury to a child.) Another problem that may be important in a health risk assessment is the simultaneous exposure to several toxic chemicals; they may have similar or dissimilar effects.

After the on-site and off-site consequences of episodic worst-case release scenarios have been evaluated, additional mitigation analyses may be warranted. These analyses quantify the reduction in risk associated with measures taken to reduce the worst-case emission, enhance the dispersion of the accidental release, or to displace the most sensitive receptors. Examples of possible mitigation measures are provided in Table 6.

CASE STUDY OF A HYPOTHETICAL TOXIC GAS STORAGE FACILITY

Site Survey

A schematic map for the subject facility in this risk assessment case study is shown in Figure 1. Pressurized cylinders of 100% chlorine, anhydrous ammonia, and 10% Arsine (in hydrogen) are stored in ventilated cabinets which exhaust through an emission control device and to a roof vent.

To identify locations for potential accidental release scenarios the transportation route of cylinder is traced from the point at which the gas vendor enters plant property to the point of use. The most common cause of leakage from a pressurized gas cylinder is through damage to the valve

TABLE 5

TYPICAL LOCATIONS WHERE EXPOSURE TO AIRBORNE HAZARDS ARE EVALUATED

On-Site	Indoor	- in the vicinity of the accident - in adjacent offices and buildings.
	Outdoor	- building air intake ports - pedestrian walkways - roadways and parking areas
Off-Site		- fence line or property boundary - closest residences - schools - hospitals - public areas (parks, malls) - industrial/commercial neighbors

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TABLE 6

USEFUL MITIGATION MEASURES FOR
HAZARDOUS RELEASES

- Strictly enforce safe chemical handling procedures
- Reduce amount stored in a single vessel
- Design loading dock such that accidental emissions are vented to a stack rather than released at ground level
- Restrict on-site transport of toxic gases to avoid collision hazard
- Increase the height and flow rate of ventilation stacks to enhance dispersion
- Relocate fresh air intakes to reduce the potential for entrainment of contaminated air
- Install emergency scrubbers or ventilators
- Purchase abutting property.

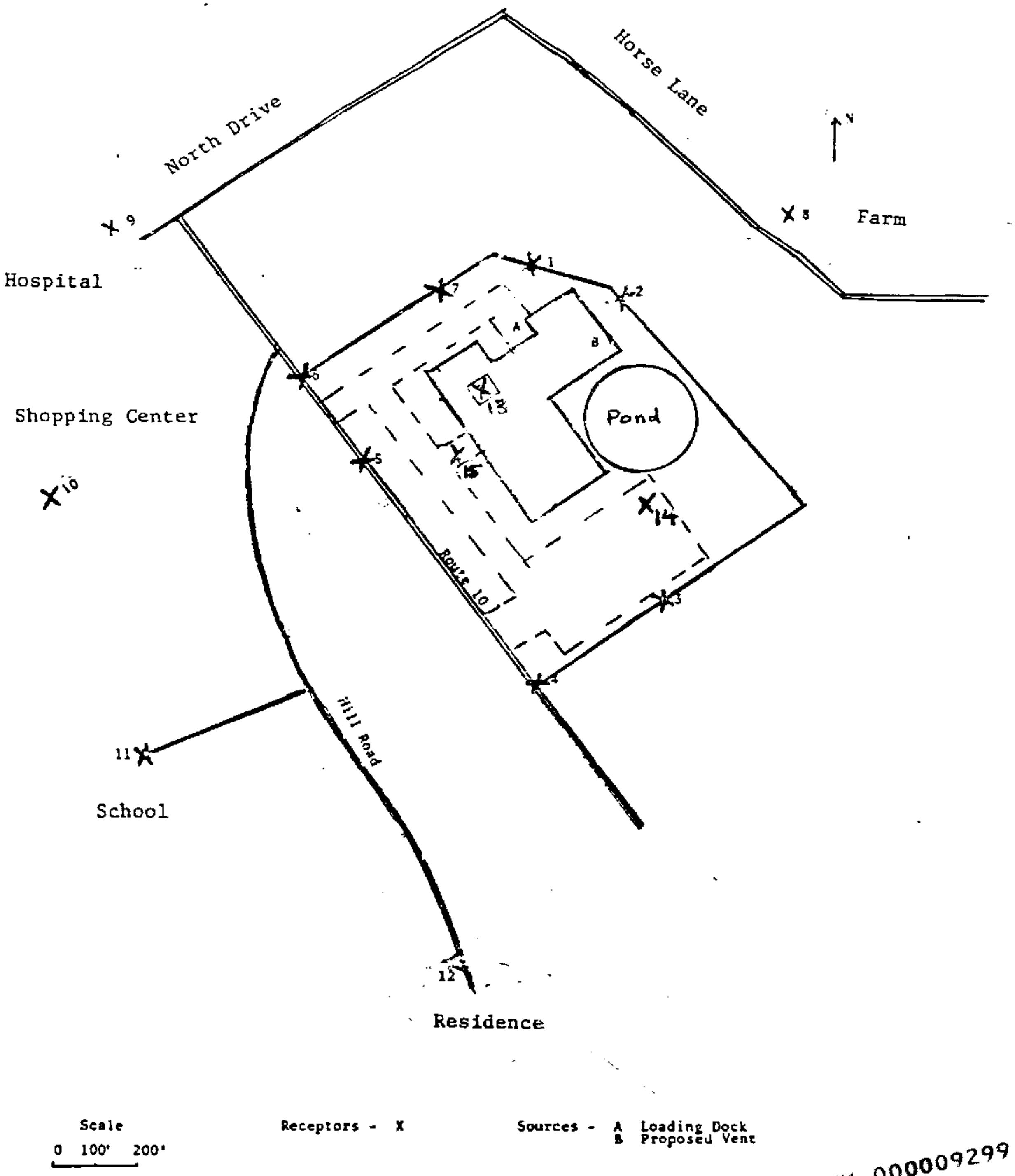

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Figure 1 - Location of Sources and Receptors for the Case Study

assembly [3]. This can occur, for instance, if the safety cap is absent or not tightly secured and a cylinder falls during transport. A high pressure gas cylinder with a sheared valve can be propelled by such force from the escaping gas that it can penetrate masonry walls [3].

Ventilation in the loading dock, corridors, chemical storage facility and laboratories - wherever the toxic gases are routed - is carefully reviewed. Documentation of airflow in each storage or use area will help to determine the path that an accidental emission will take. If, for instance, an accident occurs outdoors on an exposed loading dock, emissions will be dispersed directly into the atmosphere. An accident in a corridor which shares recirculated air with other parts of the building could cause widespread indoor contamination. On the other hand, a release within a properly ventilated storage facility could be carried to the atmosphere via a rooftop stack, and perhaps through a control device.

Once the gas is released to the atmosphere it can be transported by the wind away from on-site receptors or become drawn into buildings through fresh air intake vents, thereby causing on-site contamination. The rate at which dilution occurs and the direction that the gas is likely to be transported in the atmosphere is function of the meteorology in relation to the local building configuration. For most areas of the United States statistical information on wind speed and direction can be obtained from measurements taken at a nearby airport, if they are not available from onsite tower measurements. The dimensions and configuration of on-site buildings and representative meteorological data are then used in conjunction with source emissions, location, and venting characteristics to estimate concentrations at important receptors by means of an air quality dispersion model.

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Accidental Emissions

As shown in Figure 1, two accidental release locations are considered, an outdoor release on the loading dock (A) and an indoor release vented through a rooftop stack (B). Receptors 1-7 are located along the property boundary, 8-12 at specific off-site locations, 13 at a fresh air intake and 14-15 at on-site parking and pedestrian walkways.

The first task was to determine which gases pose the greatest potential off-site health hazard in the event of sudden release. Maximum release rates can be calculated with ERT's DISCHARGE model [2]. The most important factors governing the emission release rate are the valve outlet diameter, initial cylinder pressure, temperature and, for liquified gases, saturation vapor pressure and cylinder orientation. For a worst-case release it is assumed that the cylinder is mishandled causing it to fall and, thereby, crack an unprotected valve. The maximum possible size of the fissure in the valve is determined from CGA (Compressed Gas Association) valve diagrams for each gas.

Whether the accidental release is from a liquified gas or pressurized gas cylinder, the air quality assessment for a ruptured valve can assume that the discharge takes the form of a gas. When the liquid level in the cylinder is above the orifice of the valve, a liquid spray would be emitted which would then rapidly evaporate in the air. The latent heat required for the evaporation would also cause the gas/air mixture to cool, initially forming a dense cloud. (For ruptures of large storage tanks some liquified gas may also form a pool on the ground.)

When the liquid level in the tank is below the orifice (such as when the cylinder is upright) emissions from the fractured valve would occur in gaseous form. Because all of the flashing of the liquid to vapor takes place within the cylinder, the temperature of the tank falls rapidly. This, in turn, causes the cylinder pressure to decrease, because the saturation vapor pressure of the liquified gas is a strong function of temperature. Thus, the emission release rate would also decrease with time as the internal vapor pressure approaches that of the atmosphere.

For purposes of ranking acute toxic gas releases, the Immediately Dangerous to Life and health (IDLH) values adopted by OSHA (Occupational Safety and Health Administration) can be used [4]. While the actual toxic impacts may depend on other factors not accounted for in the IDLH, this value serves as a useful benchmark. The score used in this example ranking is simply the 1-minute emissions divided by the IDLH. Table 7, which ranks the example set of toxic gases according to the potential for toxicity and emission rate, shows that chlorine poses the greatest hazard for the storage containers utilized at this site.

Dispersion Modeling

Emissions computed by the DISCHARGE model for each of the two reference locations - the outdoor loading area and inside the ventilated building -- are used in the dispersion model calculations. The loading dock release is often the more critical, because an accident would result in essentially a ground-level release, thereby maximizing surface impacts.

The Integrated Puff Dispersion Model (IPDM) is used to obtain concentrations in the direct path of the release as a function of time [5]. This model simulates the maximum ground level concentration of an episodic release as a function of time and downwind distance. The model accounts for the initial dimensions of the "cloud" of emissions, wind speed, and atmospheric stability. The initial dimensions of the release is a complex function of several factors including the momentum of the pressurized jet from the fractured valve, the gravitational spread of the dense cloud and the mixing caused by turbulence from the nearby building wake. For each gas, an analysis is performed to determine which effects dominate the

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TABLE 7

TOXIC RANKING OF GASES FOR THE CASE STUDY

Rank	Chemical Name	Amount per Cylinder	Relative* Toxicity
1	Chlorine	76 cuft	100
2	Ammonia	634	33
3	Arsine - 10%	29	21

*Emissions/IDLH (normalized to highest-ranked gas) initial volume of the cloud. In the loading dock release case, for example, the building wake effect, rather than dense gas dispersion determines the initial size of the cloud, whereas "passive" dispersion dominates at distances beyond the building wake region. The plot of the chlorine concentration as a function of time at several downwind distances in Figure 2 shows that the concentrated puff of material disperses rapidly with downwind distances.

To estimate peak short-term (e.g., one-minute) average (rather than time-varying), ground-level concentrations due to emissions from various sources (loading docks, stacks, roof vents) a modified version of the U.S. EPA's Industrial Source Complex (ISC) model can be used. The utility of the ISC model is that it incorporates building downwash wake effects and plume rise and is the standard model used in regulatory applications for a wide variety of industrial sources. However, because the model is designed to simulate long-term continuous releases, adjustments to the model calculations were made to estimate the maximum 1-minute average concentration from an episodic release [4]. For slow leaks from cylinder valves that are steady over several minutes, the standard ISC model is appropriate because emissions disperse more in the form of a continuous plume rather than an instantaneous puff.

Results of the worst-case, 1-minute average concentrations for accidental releases are shown in Table 8. For the loading dock both chlorine and ammonia result in peak 1-minute concentrations above the IDLH. In contrast, results for the indoor release emitted through the rooftop vent indicate that only the air intake could experience concentrations exceeding the IDLH.

For this case study the climatological frequency of meteorological conditions have been derived from measurements taken at a local airport as illustrated in Figure 3. This figure indicates that there is a much higher probability that winds would transport an atmospheric release towards the east than towards the west. Table 9 shows how the predicted

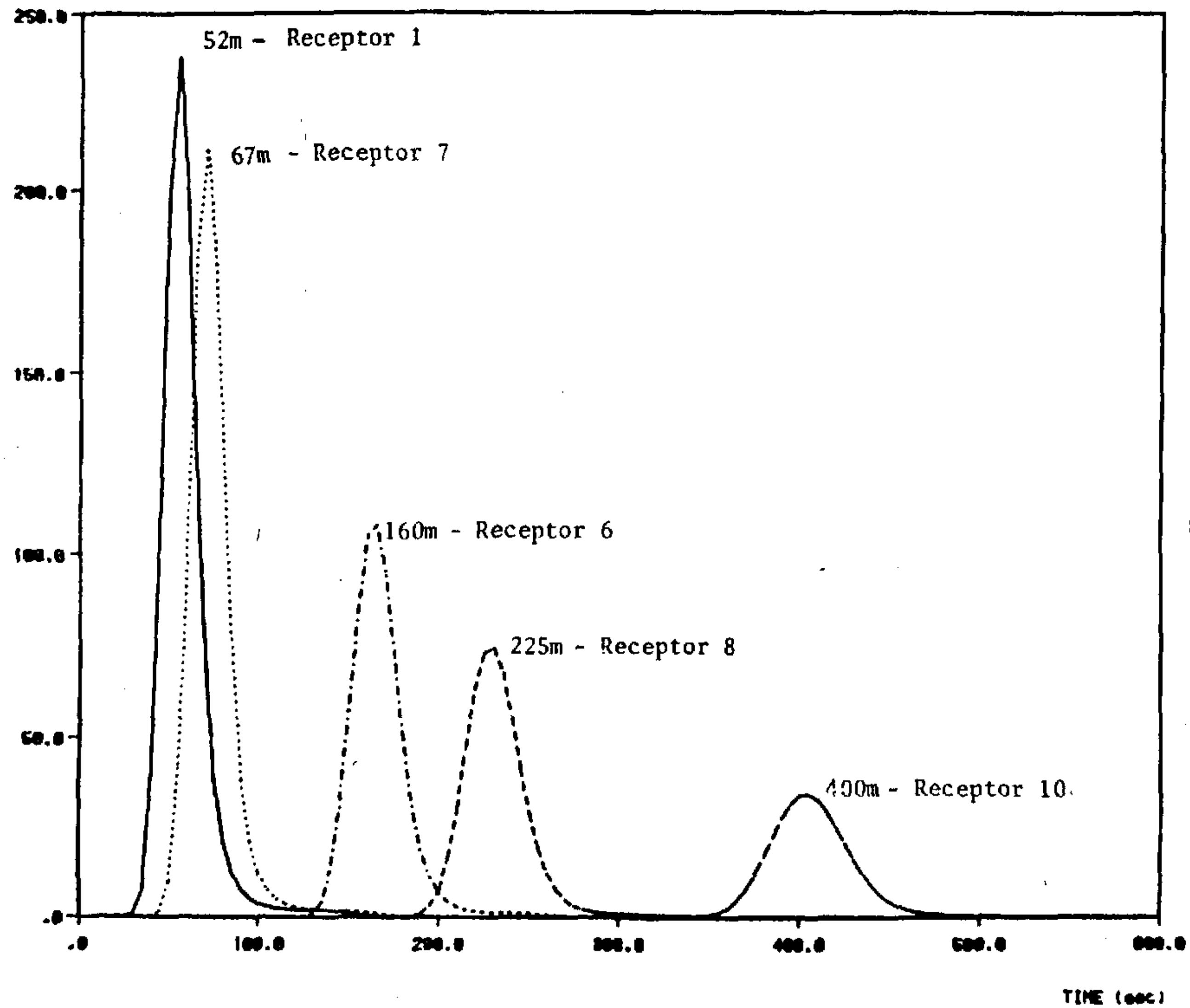

Figure 2 Maximum Chlorine Concentrations for a Loading Dock Release as a Function of Time for Various Downwind Distances

TABLE 8

WORST-CASE 1-MINUTE IMPACTS IN TERMS OF PERCENT OF THE IDLH FOR A LOADING DOCK RELEASE

Receptor	Chlorine A*	Chlorine B+	Ammonia A	Ammonia B	Arsine A	Arsine B
1	356	36	122	12	75	8
2	340	48	115	16	70	10
3	180	40	59	14	38	8
4	152	40	50	14	32	8
5	240	56	78	19	50	12
6	224	44	73	15	47	9
7	336	40	113	14	70	8
8	176	56	58	19	37	12
9	116	20	38	7	25	4
10	100	40	33	14	22	8
11	88	40	29	14	18	8
12	76	28	25	10	17	6
13	390	220	132	75	82	46
14	210	35	71	12	44	7
15	266	40	90	14	56	8
IDLH (ppm)	25		500		6	

*Source A - Outdoor loading dock release.

+Source B - Release through roof vent.

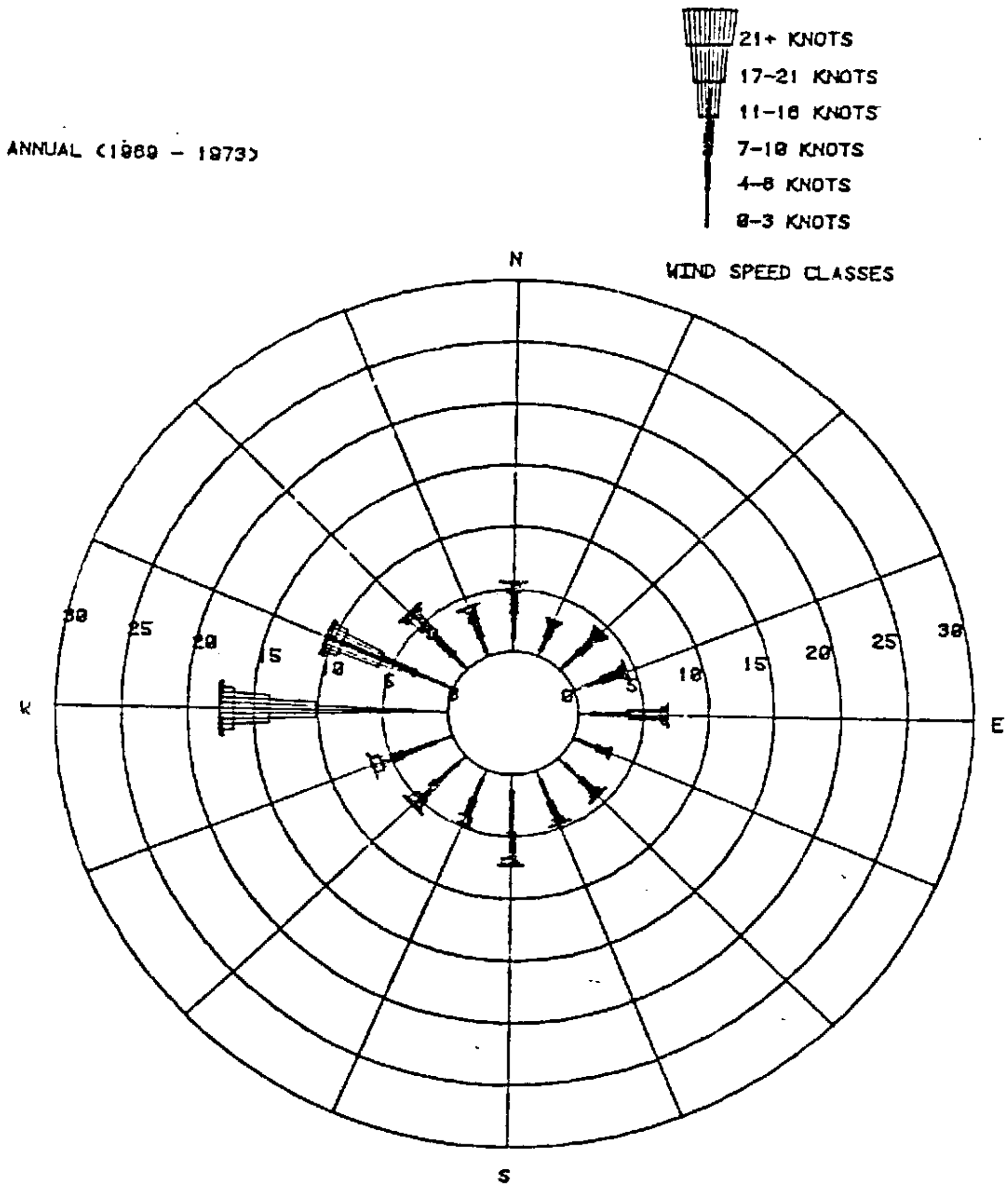

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Figure 3 - Wind Rose for Local Airport Used in the Frequency Analysis

TABLE 9

METEOROLOGICAL PROBABILITY ANALYSIS

1-MINUTE IMPACT OF CHLORINE (PPM)

LOADING DOCK - SOURCE A

IDLH = 25 PPM

Receptor	Highest	1%*	5%*
1	89	89	20
2	85	85	34
3	45	19	9
4	38	17	5
5	60	25	-
6	56	23	13
7	84	34	-
8	44	44	19
9	29	14	5
10	25	12	4
11	22	8	-
12	19	10	2
13	98	56	18
14	52	22	10
15	66	33	9

*Up to 1% or 5% of the hours in a year, an accidental release could produce a concentration between the maximum and the value listed in each column.

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chlorine concentrations for the loading dock release would vary according to the probability of occurrence at each receptor location. (For a value listed as having a 5% probability, it means that 95% of all accidents would yield concentrations with a lower value at the specified receptor location.)

Evaluating the Health Effects of Acute Exposure

In the dispersion modeling analysis, the peak 1-minute average concentration is used as a conservative benchmark for acute toxic exposures, that is, it represents a longer time than most people could hold their breath in an emergency situation. If the 1-minute concentration is below the IDLH level then one can be reasonably assured that there will be no lasting health effects resulting from an acute exposure [2].

In this present application the IDLH which is defined on the basis of preventing symptoms which would interfere with life-saving evacuation is compared to an acute 1-minute concentration. A lower value, the Short Term Exposure Limit (STEL) is more generally used as the reference value for evacuation planning but is compared to a 15-minute average concentration. The specific guideline and time averaging approach selected by the analyst will depend to some degree on the duration of the release and emergency planning goals defined for a specific case.

Multiple Chemical Exposure

The previous analysis evaluated the degree of health-related impacts as measured against the IDLH for the release of individual chemicals. Although much more remote, the possibility of releasing two or more gases is also of interest.

How the simultaneous exposure to multiple chemicals will affect humans depends upon the site and mechanisms of effect within the body. Effects may be antagonistic, independent, additive, or synergistic. For instance, if one gas chemical causes a decrease in respiration rate, it may antagonize the impact of the second gas, because a smaller dose of the second gas is being received by the body. In another instance, one gas may affect the central nervous system while the other affects the kidney. The effects in this case may be more nearly independent. Additivity is often encountered when mechanisms of toxicity are similar, as was assumed to be the case for chlorine and ammonia in our case study. Synergism is the interesting phenomenon where the toxic effect of a combined exposure is greater than the sum of the individual effects. For instance, sulfur dioxide combined with non-toxic levels of sub micron zinc oxide aerosols under the appropriate conditions of temperature and humidity becomes more toxic than sulfur dioxide alone (this is due in part to oxidation of sulfur dioxide to the more irritant sulfite and sulfates) [6].

It may be useful to represent these risk assessment methods as a mathematical expression. Consider a health effect measure, E, which indicates an unacceptable risk if it exceeds unity (one). For exposure to a single gas we have suggested

$$E_1 = \frac{x_1}{A_1 \bullet IDLH_1} \tag{1}$$

where x is a 1-minute concentration and "A" indicates what multiple or fraction of the IDLH represents an acceptable risk. When concentrations of two gases are considered that act with similar mechanisms we can write:

$$E_{12} = I \left[\frac{x_1}{A_1 \bullet IDLH_1} + \frac{x_2}{A_2 \bullet IDLH_2} \right] \tag{2}$$

Where I is an "interaction" factor for the two compounds, I would be less than one if the compounds were antagonistic, one if the toxic effects were additive, and greater than one for synergistic actions. Application of a value for I is combination-specific and requires a great deal of professional judgement.

Both chlorine and ammonia are strong respiratory irritants affecting skin, eyes, and membranes of the nose, throat and lungs. Because their mode of action is so similar, we suggest that the above equation may be suggested as a method to assess the combined acute health effects (with $I = 1$). In contrast, arsine is not an irritant, but a nerve and blood poison [5]. Simultaneous exposure to arsine plus chlorine or ammonia could therefore be evaluated independently using equation (1).

SUMMARY

The generalized risk assessment approach outlined in this paper is applicable to a wide variety of industrial facilities. The results of such a study will help to manage risks at existing sites and plan for an emergency response program. For facilities that are still in the planning stage, such an assessment can help to produce a design that optimally reduces both on-site and off-site risks.

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TO: R. Flammer, R. Swantkowski, S. McGuire

FROM: T. G. Grumbles
DATE: January 6, 1987

Interoffice Communication

SUBJ: LABELING OF PVC PRODUCTS

VISTA

As a result of OSHA Hazard Communication Standard enforcement activity and general end user concern regarding labeling of products the issue of warning labels on PVC products is once again becoming an issue.

There remains inconsistent practice in the industry regarding placement of the OSHA VCM warning label and most recently additional warning labels are being placed on PVC containers by some producers and sellers. This is apparently in response to the hazard communication standard. This inconsistency in the industry is resulting in customer inquiries regarding the "absence" of labels and has the potential to become a commercial issue.

Specifically, one of our customers has been cited by Kentucky State OSHA for having unlabeled compound containers (Vista product) in his plant, Premiere has been asked why we weren't labeling by a major customer, and my group has probably answered a dozen inquiries in the last 12 months regarding PVC labeling. The Vinyl Institute is working with OSHA to get an official opinion on the PVC labeling questions, but has had little success as yet.

Vista's position remains that the OSHA VCM warning label is not required on products containing less than 8.5 ppm and that PVC products (resin, dry blend, compound) are not hazardous materials as defined by the Hazard Communication Standard and therefore, require no labels. We feel these positions are scientifically valid and appropriate from a "real hazard" standpoint.

Statements regarding additive package content, processing vapors and fire hazards are appropriate for the Material Safety Data Sheets.

I would like to meet in the near future to discuss the above to assure we have a clear understanding and position on these issues. The PVC sales force should be well informed on the above.

Thomas G. Grumbles

ajo/9

Attachment

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cc S. Sa[redacted]eschnick, J. Nelson

the proposed rules lack a firm basis in statutory or scientific authority. The comments were submitted on September 26, 1986 and an addendum providing more technical data was submitted on October 20, 1986.

EPA is currently evaluating comments submitted on the proposal. A final rule is not expected until the Fall of 1987.

4. Land Ban Disposal Rule Issued

On November 7, 1986, the EPA published a final rule implementing congressionally mandated prohibitions on land disposal of certain hazardous waste. 51 Fed. Reg. 40,572. In its notice, EPA established, among other things, procedures for setting treatment standards for hazardous wastes, for granting nationwide variances from statutory effective dates as well as evaluating petitions for a variance from the treatment standard.

Specifically, EPA has promulgated treatment standards and effective dates for hazardous wastes included in the first phase of land disposal prohibitions under the Resource Conservation and Recovery Act (RCRA). These include certain dioxin and solvent-containing hazardous wastes. This is the same document in which EPA published the Toxicity Characteristic Leaching Procedures (TCLP) for use in determining whether these wastes meet applicable treatment standards. The rule became effective on November 8th.

C. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

1. PVC Labeling Dispute Leads to Meeting With OSHA

As part of its implementation of the Hazard Communication Standard, OSHA has been conducting compliance inspections and reviewing product labeling and material safety data sheets (MSDS). As a result of these inspections, some polyvinyl chloride (PVC) producers and compounders have received citations for failure to label PVC resin or compound as a carcinogen under OSHA's vinyl chloride and hazard communication standards or for failure to indicate PVC's carcinogenicity in MSDSs. We have been attempting to obtain a letter from OSHA confirming that: (1) PVC itself is not a hazardous chemical under the hazard communication standard and (2) vinyl chloride homopolymer and copolymer resins and compounds do not trigger the labeling and training provisions of the OSHA vinyl chlroide standard when no exposure to vinyl chloride monomer at or above the action level of 0.5 ppm is anticipated.

In a meeting on October 23rd with Frank A. White, Deputy Assistant Secretary for Occupational Health, and other OSHA staff members,we again presented our views on this issue. At the meeting, staff member Dave Smith suggested that we forward to him copies of any recent citations issued by OSHA inspectors relating to this matter for his coordinated handling. We agreed to provide the Agency with the information and are requesting that any pertinent OSHA citations be forwarded to us. We are awaiting the Agency's response on our request.

* * *

In October, we met with the National Paint and Coatings Association (NPCA) to discuss OSHA's May directive requiring "target organ effect labeling" for hazardous materials. Apparently, in the May directive OSHA has elected to view labeling requirements under the HCS as the primary, if not the sole source of hazard information. In so doing, the Agency has moved significantly from a performance-oriented standard that incorporates all aspects of the hazard communication program to a comprehensive labeling standard. NPCA subsequently met with OSHA. The Agency was sufficiently receptive to NPCA's concerns so that the association has decided to work with OSHA to try to reach agreement.

2. Court Upholds Federal Law Over Right-To-Know Law in Akron, Ohio, But Not in Pennsylvania

The extent to which the Hazard Communication Standard, 29 C.F.R. § 1910.1200 (HCS or the Standard), promulgated by the Occupational Safety and Health Administration (OSHA), preempts, inconsistent state "right-to-know" laws has previously been the subject of several court rulings. Earlier this year, however, those segments of industry which produce and utilize hazardous chemicals were startled by a federal court ruling which held that local "right-to-know" laws are not displaced by the Federal Standard. Due to the serious consequences of this ruling, which involved the City of Akron's right-to-know law, SPI joined other industry groups in filing a brief in the appeal of that decision.

As the result of these efforts, the lower court decision has been reversed. In a ruling issued on September 17, 1986, Ohio Manufacturers Association v. City of Akron, No. 86-3191 (6th Cir. 1986), the U.S. Court of Appeals for the Sixth Circuit reversed the decision of U.S. District Judge Ann Aldrich, and held that the Akron ordinance is preempted to the extent that it attempts to regulate employee safety in the manufacturing sector.

Nevertheless, a judicial decision on this issue in Pennsylvania threatens to make right-to-know compliance substantially more difficult for chemical manufacturers and suppliers doing business in that state. On December 12, 1985, the U.S. District Court for the Middle District of Pennsylvania held that