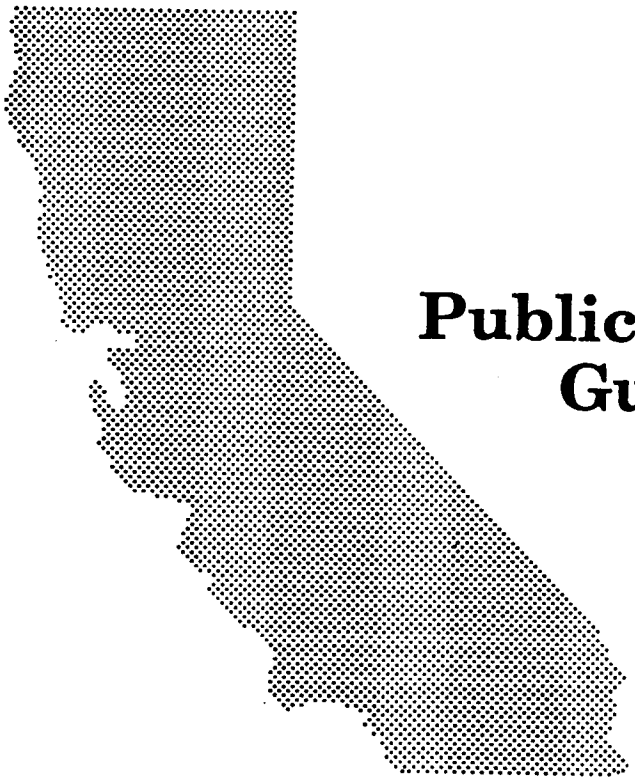
Final
CAPCOA

Air Toxics "Hot Spots" Program



Public Notification Guidelines

Prepared by the:

AB 2588 Risk Assessment Committee of the
California Air Pollution Control
Officers Association (CAPCOA)

October 1992

Final

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Prepared by the:

AB 2588 Risk Assessment Committee of the California Air Pollution Control Officers Association (CAPCOA), in consultation with the,

Air Toxicology and Epidemiology Section
Office of Environmental Health Hazard Assessment

and

Special Projects Section
Toxic Air Contaminant Identification Branch
Air Resources Board

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INTRODUCTION

A. WHO DEVELOPED THE PUBLIC NOTIFICATION GUIDELINES?

The Public Notification Guidelines were developed by the AB 2588 Risk Assessment Committee (Committee) which was formed at the direction of the California Air Pollution Control Officers Association (CAPCOA) Board of Directors. The Committee includes representatives of 10 air pollution control districts (districts) and staff of the Air Resources Board (ARB) and the Office of Environmental Health Hazard Assessment (OEHHA).

On September 20, 1991, the AB 2588 Risk Assessment Committee held a public consultation meeting to receive comments on possible notification procedures. After the public consultation meeting, the Committee developed the June 1992 draft CAPCOA Public Notification Guidelines. The June 1992 version of the CAPCOA Public Notification Guidelines was released for public review and comment on June 5, 1992. On June 26, June 29, and July 1, 1992, public workshops were held on the draft CAPCOA guidelines. The public comment period on the draft CAPCOA Public Notification Guidelines closed on July 31, 1992.

During the public comment periods, numerous written as well as oral comments were provided, many of which are reflected in the August 1992 draft CAPCOA Public Notification Guidelines. Appendix A includes a summary of written and oral comments on the June 1992 draft CAPCOA guidelines as well as responses to comments and corresponding revisions. Appendix A also includes comment letters addressing the June 1992 version of the draft CAPCOA Public Notification Guidelines.

B. WHAT IS THE GOAL OF NOTIFICATION UNDER THE "HOT SPOTS" PROGRAM?

The primary goal of notification under the Air Toxics "Hot Spots" Program is to inform the public of their exposure to toxic substances routinely released to the air from facilities and the potential health risks

associated with those exposures. An important component of notification is the establishment of a mechanism to address the public's questions concerning exposure and health risk associated with a facility's emissions.

Notification under the Air Toxics "Hot Spots" Program also provides the district and facilities with the opportunity to communicate past, present, and planned future activities aimed at reducing the public's exposure to air toxics.

C. WHAT IS THE PURPOSE OF THE GUIDELINES?

The purpose of the CAPCOA Public Notification Guidelines is to provide districts with a tool, which can be used at their discretion, for developing notification procedures under the Air Toxics "Hot Spots" Program. Districts may choose to use the CAPCOA Public Notification Guidelines as written, make modifications, or develop notification procedures that differ from those discussed.

The CAPCOA Public Notification Guidelines are not a comprehensive source on risk messages or on the risk communication process. Instead, the CAPCOA Public Notification Guidelines are intended to provide districts with clear procedures which they may require facilities to use for notifying the public under the Air Toxics "Hot Spots" Program. Emphasis is given to discussing specific notification procedures including guidance on notification materials and suggestions for presenting such information. Appendix B includes a sampling of suggested reading on the subject of risk communication followed by a brief bibliography. It is suggested that the district as well as facilities review these materials.

There are a number of important issues associated with notification upon which the district will be required to make decisions. Where appropriate, the CAPCOA Public Notification Guidelines identify these decision points and suggest possible approaches.

D. WHAT ARE THE REQUIREMENTS FOR PUBLIC NOTIFICATION?

The Air Toxics "Hot Spots" Information and Assessment Act established a statewide program to inventory air toxics emissions from individual facilities as well as requirements for risk assessment and public notification (Appendix C contains a copy of the Air Toxics "Hot Spots" Information and Assessment Act).

The Air Toxics "Hot Spots" Act requires facilities meeting certain criteria to prepare and submit health risk assessments to the district. The risk assessment must be reviewed by the district and the OEHHA. The district, taking into account the OEHHA's comments, are to return the risk assessment to the facility for revisions and resubmittal (if necessary). The district is to approve the risk assessment within 180 days of receipt from the OEHHA.

If, based on the approved health risk assessment, the district judges that significant health risks are associated with emissions from the facility, the facility operator must notify all individuals who are exposed in accordance with procedures specified by the district (Health and Safety Code section 44362(b)). The Act also specifies that if a notice is required, the notice shall include only information concerning significant health risks attributable to the specific facility for which the notice is required.

E. WHAT IS THE DISTRICT'S ROLE IN NOTIFICATION?

The district's role in notification is to: 1) establish notification procedures under the Air Toxics "Hot Spots" Program that facilities are required to follow; 2) specify the criteria for triggering notification; 3) based on review of the approved health risk assessment, identify which facilities have to notify exposed individuals; and 4) ensure that notifications are consistent with the district's procedures and occur within an acceptable timeframe as defined by the district.

F. HOW DO I USE THE GUIDELINES?

This document consists of several chapters addressing different aspects of the notification process. Chapter II provides guidance concerning preparation for notification. Chapters III, IV, and V discuss differing procedures for notifying the public where estimated health risks exceed the district's notification threshold. Each chapter provides suggestions concerning the role of the district and the facility in notification.

The CAPCOA Public Notification Guidelines focus primarily on one procedure for notifying the public of significant carcinogenic and noncancer health risks. The procedure recommends that public notices be sent to individual residences. It is also recommended that the district assess the public's interest in a public meeting. The procedure (single-level procedure) which is presented in Chapter III, consists of a single set of notification steps for facilities with estimated risks above the notification threshold as established by the district. Under this procedure there would be one approach to all notifications. As part of this procedure, both the district and the facility operator have an opportunity to describe potential health risks.

In addition to the detailed procedure discussed in Chapter III, a second or alternative procedure for notifying the public of potential carcinogenic and noncancer health risks is briefly presented in Chapter IV. The purpose of the alternative procedure is to illustrate an example of a multilevel notification procedure that the district may choose to develop. With the multilevel procedure, the notification steps vary as a function of the estimated risks (i.e., the higher the risk over the district's notification threshold, the more comprehensive the notification procedure) associated with the facility's emissions.

Chapter V presents a suggested procedure for industrywide notifications.

There are a number of ways the CAPCOA Public Notification Guidelines may be used by the district as their notification procedure(s). For example, the district may require facilities to notify the public using the single-level procedure discussed in Chapter III, the multilevel procedure discussed in Chapter IV, or a combination of both. Furthermore, the district may use the procedures discussed in Chapter V for facilities meeting criteria that the district establishes.

The CAPCOA Public Notification Guidelines also provide flexibility in establishing notification thresholds for carcinogens and noncarcinogens. Although the procedures include notification thresholds as examples, the district may select notification thresholds that are higher or lower than those presented in these guidelines.

During the development of the procedures presented in the CAPCOA Public Notification Guidelines, the Committee recognized that there are other workable notification procedures that the district may choose to develop. The district may use such procedures independently or in conjunction with the procedures presented in the CAPCOA Public Notification Guidelines.

G. WHY DO THE GUIDELINES RECOMMEND LETTERS AND PUBLIC MEETINGS?

The notification procedures presented in Chapters III and IV of the guidelines primarily rely on letters sent to individual residences and recommends that interest in a public meeting be assessed. It is understood that there are other approaches to notification that can achieve the same goal (i.e., notify the public of significant health risks). However, we believe that sending letters to individual residences and workplaces in the impacted area is an effective approach for informing those that are exposed.

The CAPCOA Public Notification Guidelines emphasize the need for public meetings after letters have been distributed. In many instances, the notices may lead to questions by the public that must be addressed. One approach for addressing the public's questions and concerns is to have a district and facility contact person, familiar with the facility, available for questions. In addition to district and facility contacts, a public meeting can be an excellent forum to address the public's questions that may not be answered in the letter. A public meeting also provides the opportunity for facility and possibly district representatives to present the risk assessment results in more detail as well as discuss activities related to reducing emissions of toxic substances.

H. WILL COMPLYING WITH THE GUIDELINES SATISFY THE WARNING REQUIREMENTS UNDER PROPOSITION 65?

Not necessarily. Where possible, the CAPCOA Public Notification Guidelines attempt to satisfy the warning requirements as specified under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Health and Safety Code section 25249.5 et. seq.) which was originally adopted as Proposition 65. However, a facility operator should not assume that compliance with Air Toxics "Hot Spots" Program notifications satisfies Proposition 65 warning requirements. For example, the notice distribution frequency suggested in the CAPCOA Public Notification Guidelines does not comply with Proposition 65 requirements. In addition, the provisions in the CAPCOA Public Notification Guidelines for industrywide notifications as well as the facility letter may not comply with Proposition 65 requirements.

The CAPCOA Public Notification Guidelines identify an optional approach which may satisfy the warning frequency requirements under Proposition 65 (page 18). If facility operators want to ensure that Proposition 65 warning requirements are being complied with, they should contact the OEHHA at (916) 445-6900 for guidance.

I. WHAT ARE THE WARNING REQUIREMENTS UNDER PROPOSITION 65 AS RELATED TO AIR EMISSIONS AND HOW DO THEY DIFFER FROM THE AIR TOXICS "HOT SPOTS" REQUIREMENTS?

Airborne emissions of specified toxic substances are subject to the Proposition 65 warning requirements. The statute requires that a "clear and reasonable" warning be provided before an individual is exposed to a chemical which has been listed as known to the State to cause cancer or reproductive toxicity unless the resulting exposure meets the criteria described below.

For carcinogens, a warning is not required if the exposure results in "no significant risk" (i.e., the exposure is calculated to result in not more than one excess cancer case in 100,000 individuals exposed over a 70-year lifetime). For Proposition 65, the warning requirement is based on the carcinogenic risk associated with individual substances (i.e., the risk associated with multiple carcinogenic substances released by a given facility are not added). In contrast, notifications under the Air Toxics "Hot Spots" Program are based on the additive carcinogenic risk for all substances emitted by a given facility. Furthermore, the levels of risk or exposure triggering notification under the Air Toxics "Hot Spots" Program are established by the district.

For reproductive toxicants, Proposition 65 provides an exemption from the warning requirement if the exposure will not have an observable effect applying a safety factor of 1000. In contrast, notifications under the Air

Toxics "Hot Spots" Program for noncarcinogenic effects consider reproductive effects as well as effects on several other organ systems. In addition, the acceptable exposure levels developed for the Air Toxics "Hot Spots" Program may differ from the acceptable levels specified under Proposition 65. The basis for such a difference may be related to the 1000-fold safety factor required to be applied under Proposition 65 or the toxicological endpoint used to derive the acceptable level. Guidance for determining whether an exposure meets the criteria specified under Proposition 65 is provided in Title 22, section 12701 through 12821 of the California Code of Regulations.

Proposition 65 includes provisions prohibiting the discharge of listed chemicals into sources of drinking water, as well as specifying governmental employee reporting requirements. However, these requirements are beyond the scope of these guidelines. For more information on Proposition 65 requirements, it is recommended that the district and facility operator contact the OEHHA at the number provided above.

II.

PREPARATION FOR NOTIFICATION

This chapter provides guidance on the steps that districts could take in preparing for the notification process. A prerequisite for successful notification is planning prior to making any notifications. If organized steps are taken to communicate the purpose of the Air Toxics "Hot Spots" Program and the risk assessment and public notification processes, it is more likely that the notification will be better understood and placed into its proper context. Early planning will establish communication channels, thus providing for more effective dialogue.

A. PUBLIC NOTIFICATION COMMITTEE

One approach for planning for notification under the Air Toxics "Hot Spots" Program is to form an ad hoc committee to advise the district on public notification. The formation of such a committee (public notification committee) can improve the effectiveness and credibility of the district's notification procedures. The public notification committee should be represented by a diverse group. The committee would include representatives from the district, industry, the public, environmental organizations, and the media.

It is suggested that the committee be responsible for reviewing district notification procedures and related materials. One of the purposes of the public notification committee is to assist the district in developing notification procedures and materials that are most effective for those that will be notified. The public notification committee can also assist the district in identifying effective methods for answering the public's questions, developing risk education materials, as well as conducting public notification meetings.

B. PRESENTATIONS, INFORMATION SHEETS, AND PRESS RELEASES

Part of preparing for public notification is the preparation of materials to assist with answering questions that people may have, such as those relating to risk assessment. It is suggested that the district

prepare information sheets describing the Air Toxics "Hot Spots" Program, the notification requirements, and a description of the purpose of health risk assessments. The information sheets would also include definitions of terms used in risk assessment. It is also suggested that the district take additional steps (e.g., presentations, press releases) to communicate program implementation activities.

1. Presentations

It is suggested that the district hold a public meeting(s) during the development of their public notification procedures. This will provide an opportunity for public comment and help to inform those in the community who are unfamiliar with the program.

One approach for communicating to the public is through presentations. Specifically, a district representative should be available to make presentations concerning the program at the request of local organizations. The objective here is to inform those in the community of program requirements and what to expect when they receive notification materials.

2. Information sheets

The district should prepare a series of information sheets to explain the purpose and components of the Air Toxics "Hot Spots" Program. The information sheets should also focus on answering questions that people are likely to have (e.g., what is a health risk assessment?) and include a district contact. The information sheets can be made available at district presentations and sent to people interested in obtaining more information on the program. The OEHHA is available to assist in the review of information sheets that the district develops.

Appendix D and E contain sample information sheets that explain various components of the Air Toxics "Hot Spots" Program. Appendix D contains an information sheet on the "Hot Spots" Program. Appendix E contains an information sheet on health risk assessment under the Air Toxics "Hot Spots" Program.

3. Press releases/relations

Another approach for informing the public is to communicate with the press early in the process. It is desirable that the district establish open lines of communication with the press. The district should designate a contact person(s) to be available to the press for questions concerning the Air Toxics "Hot Spots" Program. The press should also be included on the district's public notification committee as well as invited to all public notification meetings.

We suggest that the district discuss the program with the press, its status, and the notification process (e.g., notifications are expected to be required). The district should also periodically prepare brief descriptions

of program implementation activities for use by the press. Because journalists work under very tight deadlines, any efforts that help them do their jobs may result in more complete coverage.

It goes without saying that inquiries by the press should be responded to in an expedient manner because journalistic deadlines are measured in minutes, not hours or days. It is better to respond to inquiries by the press quickly with part of the information, than late with all of it. If all of the information is unavailable, say so, but be prepared to say why. If more time is needed, say how much and follow through.

III.

THE NOTIFICATION PROCEDURE (SINGLE-LEVEL)

The single-level notification procedure presented in this chapter primarily relies on letters (sent to individual residences and workplaces) and public meetings to notify the public of Air Toxics "Hot Spots" risk assessment results where those risks exceed the district's notification threshold. The procedure also discusses noncancer health risk.

The advantage of this notification procedure is that it: 1) accommodates districts that choose to only establish one notification threshold for carcinogens; and 2) specifies one consistent format for all notifications. What may be a possible disadvantage of this procedure is that there is minimal difference in the notification method for facilities, even if the risks vary substantially.

The purpose of the notification letter is to explain from the district's perspective the carcinogenic and/or noncancer health risk which may be associated with the facility's emissions based on the approved health risk assessment. Therefore, the letter should be prepared by the district, placed on district letterhead, and made available to the facility operator for printing and distribution. It is also suggested that the district provide the facility with district envelopes to be used to distribute of the notification materials. The envelope should include an indicator of its contents (e.g., bold print stating Public Notice: Exposure to Toxic Air Pollutants). Section B provides guidance on the notification letter to be placed on district letterhead.

This procedure also provides facilities with the opportunity to describe their operation as well as the risk assessment results. We believe that it is important to afford the opportunity to facilities to describe the risk assessment results in their own words and to include this in the notification package after review and approval by the district. Section D provides guidance on the facility's letter. Section E provides guidance on public meetings.

As shown in Figure III-1, the primary steps in the notification procedure are: 1) the district determines if the estimated risks in the approved health risk assessment exceed the district's notification threshold for carcinogenic and/or noncancer health effects; 2) if notification is required, the district prepares the notification letter; 3) the facility operator prepares a notification letter in their own words which is submitted to the district for review and approval; 4) the facility operator identifies letter recipients and mails out the district-reviewed notification package; and 5) based on public interest, the district determines if the facility should hold a public meeting.

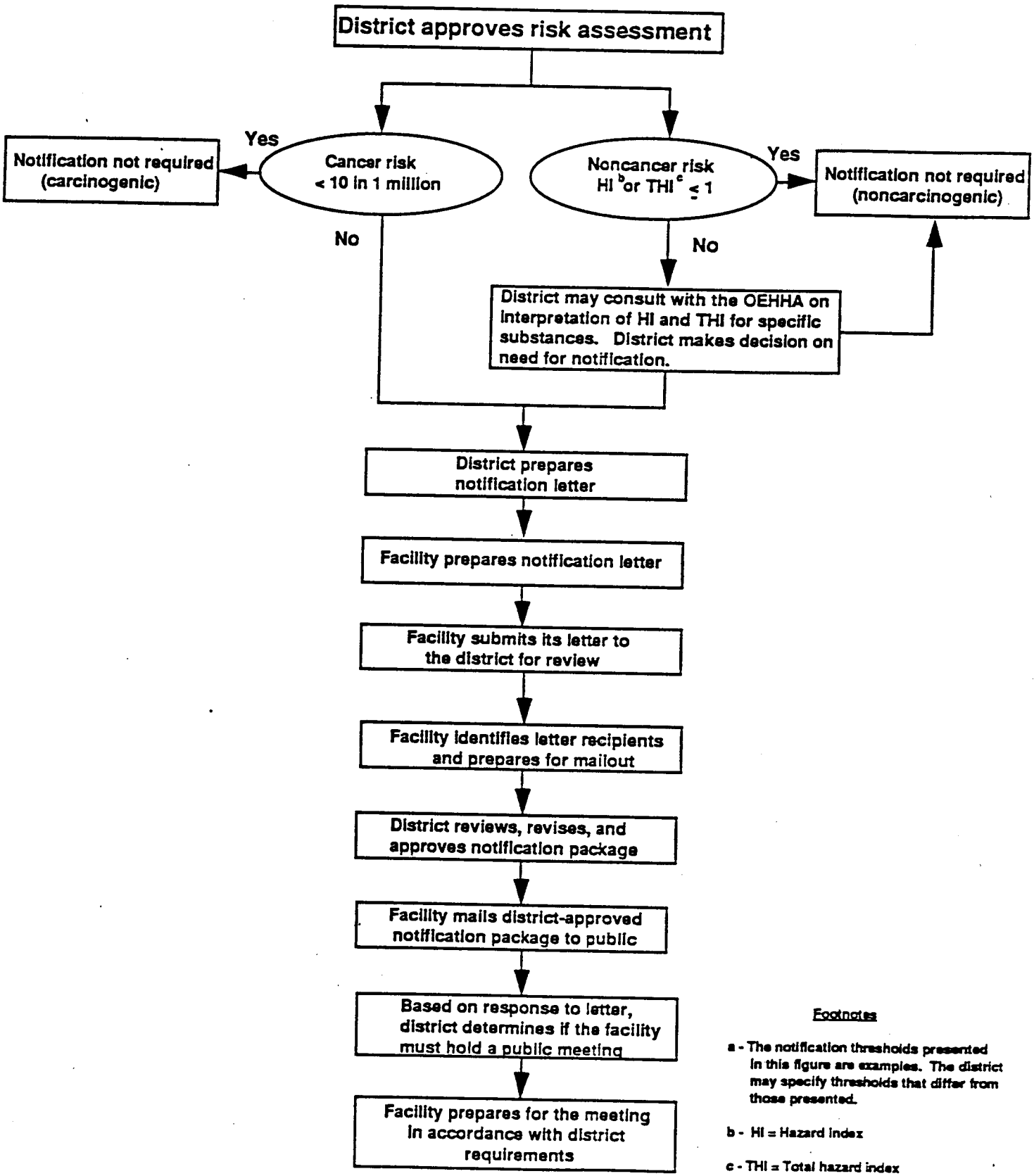
A. NOTIFICATION THRESHOLD (EXAMPLES)

It is the district that establishes the carcinogenic and noncancer health risk notification thresholds. In these CAPCOA guidelines, ten in one million (10 in 1,000,000) is used in the examples as a notification threshold for carcinogenic risk. Many oral and written comments received have suggested that 10 in one million is an appropriate carcinogenic notification threshold. This level of risk (i.e., 10 in one million) also corresponds to the warning level required under Proposition 65 (facility reporting requirements for individual substances). However, it should be noted that written and oral comments have also suggested carcinogenic notification thresholds ranging from one in one million to 100 in one million.

For the Air Toxics "Hot Spots" Program, the district may choose a notification threshold(s) that is higher or lower than that used as an example here. However, it is recommended that the district base its carcinogenic notification threshold on risks resulting from the emission of substances listed in Tables III-5 and III-6 of the CAPCOA Air Toxics "Hot Spots" Program Risk Assessment Guidelines. The district may choose to specify that the carcinogenic risk contributed by substances listed in Table III-7 (Table III-7 provides screening unit risk factors) be included when determining if notification will be required. However, it is suggested that the district consult with the OEHHA prior to making such a determination.

For noncancer health risk, the example presented in this procedure specifies that a hazard index (HI) or total hazard index (THI) of greater than one prompt the district to consider requiring notification. The OEHHA has specified that an HI or THI of one or less is not likely to result in adverse health effects in the population including sensitive individuals. However, for an HI or THI greater than one, there is a greater potential that adverse health effects may result depending upon the substance(s) in question. The district may choose to consult with the OEHHA on a case-by-case basis when determining if notification is appropriate for noncancer health effects.

Figure III-1
Flowchart of (Single-Level) Notification Procedure[a]



Footnotes

a - The notification thresholds presented in this figure are examples. The district may specify thresholds that differ from those presented.

b - HI = Hazard index

c - THI = Total hazard index

For estimated cancer as well as noncancer health risks, the health guidance values (unit risk factors and acceptable exposure levels) recommended for use by the OEHHA are intended to protect sensitive individuals in the population.

B. THE DISTRICT NOTIFICATION LETTER

This section makes suggestions concerning the format and content of the district's notification letter that facilities would distribute to those within the area defined by the district's notification threshold.

1. Purpose of the letter

The goal of the district notification letter is to inform the public of possible health risks associated with a specific facility's emissions in a manner consistent with the seriousness of the risk and which enables those who want to know more or get more involved to do so easily. It should answer basic questions that its recipients will have such as:

1) why the notice was sent;

2) the identity and location of the facility emitting the substance(s);

3) the substance(s) emitted and, if appropriate, what the substance is used for;

4) the risk associated with exposure;

5) general assumptions used to estimate the risk;

6) steps being taken to reduce the risk (when applicable); and

7) how to get more information.

It is also beneficial to provide information in the letter which helps to put the reported risks into perspective.

2. Format of the letter

The district notification letter should be organized in such a way that it can be easily understood. It is suggested that the notice consist of brief paragraphs placed on standard letter-size (8 1/2 by 11 inches) paper. The type size should not be smaller than 12 pitch. It is also suggested that the letter not be longer than two pages. If possible, a one page letter is desirable.

Other issues that should be addressed include the language(s) of those receiving the notice. It may be necessary to develop notices in other languages for non-English speaking communities. The notice should also

give direction to schools and places of work on where to post the notice. The notice should be posted in an area(s) where it is likely to be observed by employees.

3. Components of the letter

This subsection describes the various components of the district's letter. Figure III-2 provides a sample notification letter for carcinogenic risk that incorporates the components presented in this subsection. Appendix F is a similar sample notification letter, except that it is for noncancer health risk. If the notification trigger for more than one effect (e.g., acute and chronic noncancer effects) is exceeded, it is suggested that the district consider merging the information into one letter.

Purpose of the letter. The district letter should begin with a clear statement as to why it has been sent. It should specify that the letter has been sent to notify the recipient of potential health risks resulting from emissions and exposure to toxic substances. The letter should also state that (Air Toxics "Hot Spots" Information and Assessment Act) state law requires facilities to provide information on routine emission of toxic substances and the risks associated with those emissions. It is also suggested that the letter indicate approximately how many other homes and/or businesses received the letter (e.g., you are among approximately 1000 residences or businesses receiving this notice).

Identify the facility. The letter should identify the facility by its full name and address. The purpose here is to ensure that the recipients know which facility is being discussed in the notification letter. One useful way of identifying the facility is to show its location on a street map which is drawn to scale.

What substance(s) is emitted. It is important for the letter to identify what substances are emitted by the facility. At a minimum, the substances which are responsible for the determination that the facility's emissions present a significant health risk should be identified. For example, if the facility is required to notify due only to its estimated carcinogenic risk, the notification letter need not discuss the emission and impact of substances with noncancer health effects. Conversely, if the facility is required to notify due only to its estimated noncancer health risk, the notification letter need not discuss the emission and impact of substances with carcinogenic health effects.

It is suggested that the carcinogenic risks presented in the notification letter be based on substances listed in Tables III-5 and III-6 of the CAPCOA Air Toxics "Hot Spots" Program Risk Assessment Guidelines. However, the district may choose to state that other carcinogenic substances (e.g., those listed in Table III-7) are emitted but not included in the estimate of risk.

Figure III-2

Sample Notification Letter

(carcinogenic risk)

Dear Neighbor:

This letter informs you that you may be exposed to toxic air pollutants. State law requires that ***[facility name]*** notify you of possible health risks resulting from routine emissions of toxic air pollutants from their facility. Approximately ***[number]*** homes or businesses are receiving this notice.

[*Facility name*], which is located at **[*facility address*]**, ***[uses and]*** emits ***[emitted substance(s)]*** into the air ***[to produce product].*** The emitted substances are toxic air pollutants and exposure may increase your risk of getting cancer.

[*Facility name*] has written a report describing possible health effects from exposure to toxic air pollutants they release. The report has been reviewed by state health experts.

Based on the report, exposure to emissions from ***[facility name]*** may increase your risk of cancer by adding ***[number]*** chance(s) in ***[number].*** The estimate is based on assumptions designed to protect sensitive people in the population. These assumptions include. 1) That you will be exposed to the emissions for 70 years. 2) That you live within approximately ***[number]*** feet of ***[facility name].*** If these conditions do not apply to you, your risk is likely to be lower. This estimate does not consider past exposures or exposure to other toxic air pollutants besides those released by ***[facility name].***

To give you an idea of how the health impact from ***[facility name]*** fits in with current air pollution problems, we can provide the following comments. The cars we drive, factories, and many of the home products that we use contribute to our air pollution problems. On average, in California, the risk from currently measured air toxics may increase your risk of cancer by adding approximately ***[number]*** chance(s) in ***[number].*** While this is only a rough estimate, we hope that it helps you to put ***[facility name]*** contribution to risk into perspective.

The ***[district name]*** and the state are taking ***[many]*** steps to reduce emissions of toxic air pollutants. If you have questions, please call the district at the number provided below.

Enclosed is a letter prepared by ***[facility name]*** which provides information **[including their efforts to reduce emissions of toxic air pollutants].**

If you have any questions concerning this letter, please call the *[district name and address]* at *[district phone number].* In addition, if you are interested in attending a public meeting to discuss the information in this letter, please call the *[district name]* or fill out and return the enclosed postcard.

Note: Businesses receiving this notice should post it in an area(s) where it is most likely to be viewed by employees.

It is also suggested that the district include a statement as to why the substance(s) is emitted by the facility (e.g., it is used to degrease metal parts prior to plating). The district may also indicate (if this is the case) that the facility is permitted and obeys all district air pollution control laws. The notifying facility operator may choose to provide more detail in their letter (see Section D) concerning the facility's operation.

The health risk assessment. The letter should also specify that the facility has prepared a health risk assessment as required by the district. In addition, the letter should provide a brief statement which defines health risk assessment. It is also suggested that the district consider including a sentence that indicates if enforceable and permanent emission reductions have taken place since the period on which the risk assessment is based.

The results of the health risk assessment should be clearly presented in the letter. In the district letter, the results of the risk assessment should be limited to those that are based on the standard methodology as presented in the CAPCOA Air Toxics "Hot Spots" Program Risk Assessment Guidelines (i.e., the results from an alternative risk assessment that the facility may have performed should not be included in the district letter).

For carcinogens, it is suggested that the letter specify the maximum carcinogenic risk where a receptor (e.g., home, business) is currently located. The risk may be expressed as the added chance of getting cancer (i.e., "emissions from the facility may increase the risk of cancer by adding one chance in a" number {specified in the approved health risk assessment}). The letter should say that the estimated risk is based on health protective or cautious assumptions such as the assumption that the recipient stays at the same location for 70 years.

With the procedure described, every recipient of the letter is notified of the overall maximum estimated risk. It is understood that this may lead to an over-estimate of risk for some recipients. For example, the district may specify a notification threshold for a carcinogenic risk of 10 in one million. However, a given facility may have several receptors associated with a risk of 100 in one million, others associated with 50 in one million, and still others associated with 20 in one million. This level of detail may be better relayed by the district contact person. Therefore, it is suggested that the notification letter indicate the approximate distance (in feet) of the maximum impacted receptor to the facility. It is also suggested that the letter specify that if the notice recipient is farther away from the facility, it is likely that their risk is lower.

Putting risks into perspective. It is suggested that the risk results in the letter be put into perspective by making an appropriate comparison. The point here is not to trivialize estimated risks. Instead, it is to simply illustrate that there are other risks that the public is subjected to, and that in some cases these risks may be considerable.

There are a multitude of inappropriate risk comparisons that should not be included in the letter. Examples of inappropriate comparisons include comparing the risk assessment results to voluntary risks (e.g., smoking, diet, driving) and comparing the risk assessment results to the risk of natural disasters (e.g., earthquakes, tornadoes, floods). Including any of these comparisons in the letter is inappropriate and will not assist in putting the risks into perspective. Instead, such comparisons may compromise the credibility of the district and outrage the public.

As a general rule, the more similar the risks, the more likely that the comparison is appropriate. To put carcinogenic risks presented in the letter into perspective, we suggest presenting the total carcinogenic risk associated with toxic substances currently monitored for in California. Ambient air monitoring results may be averaged and assumed to roughly represent long-term average concentrations. There may be considerable uncertainty with such an assumption. Knowing the average concentrations and the appropriate unit risk factors for the carcinogenic substances that are monitored for, one can calculate the estimated total carcinogenic risk throughout the state or in certain regions.

We believe that comparing the risk assessment results to the estimated risk associated with outdoor air toxics based on air monitoring results is appropriate because: 1) both exposures are involuntary; 2) both exposures occur in the air (at least in part); 3) both exposures are to toxic substances; and 4) the risk associated with measured air toxics can be used to illustrate the range of activities that adversely impact air quality.

It is necessary to emphasize that toxics monitoring data are often not of sufficient quantity to characterize annual average concentrations. Therefore, the assumption that the ambient monitoring data can be used to represent long-term average concentrations may lead to over or under-estimates of the risk associated with ambient air.

The ARB monitors for over 30 toxic substances at 20 stations across the state (Appendix G identifies the locations of the ARB's air toxics monitoring network). The ARB can provide districts with these data in order to put risks into perspective as part of the notification letters. The data may have to be summarized before calculating the corresponding health risks. In addition to the ARB, some districts monitor for toxic substances. These data may also be available to assist nearby districts (i.e., those without air toxics monitoring stations) with putting risks into perspective. The appropriate district should be contacted for information on the availability of the data.

In addition to using ambient toxics monitoring data to put risks into perspective, there are other comparisons that the district may choose to consider. For example, the district may consider including an estimate of the risk associated with exposure to toxic air pollutants for individuals living near a freeway. In addition, the district may choose to present

comparative risk information in the form of a graph or map showing the area covered under the notification.

As part of estimating the risk associated with outdoor air, it is also suggested that the notification letter identify other sources of air toxics that contribute to the measured levels in the outdoor air (e.g., automobiles, factories, consumer products).

What is being done. The district may want to include a brief statement on its activities to reduce emissions of air toxics such as the development of rules, site inspections, promotion of the use of substitutes and waste minimization.

Contact person. The letter should identify a district contact person to answer any questions that people may have. Community interest in response to a given notification may be high and, as a result, lead to numerous calls to the district. It is critical that the district plan for such requests and have a staff person(s) prepared to address questions from the public. It may also be necessary to have bilingual staff available to respond to public inquiries. It is strongly recommended that the district respond to such calls within the same day. If calls are not promptly returned, the effectiveness of the notifications may be compromised.

4. Frequency of Notification

At a minimum, it is suggested that the district letter be distributed to those exposed on an annual basis. However, the district may determine that more frequent notifications should be made. The notification frequency suggested here does not comply with the requirements of Proposition 65. To comply with Proposition 65 requirements, the facility operator may choose to develop a notice similar to the district letter for newspaper publication or individual mailings on a quarterly basis. The facility operator should contact the OEHHA to determine if the chosen approach is acceptable.

C. LETTER RECIPIENTS

It is the responsibility of the facility operator to ensure that all receptors where estimated risks exceed the notification threshold receive the district's notification letter. The facility operator should specify to the district how it intends to ensure that the distribution of notices will be complete.

In some cases, where there are few homes or businesses, identifying letter recipients may not be resource intensive. However, if numerous homes and/or businesses are to receive the letter, compiling the addresses may require a substantial effort. The facility operator may choose to seek the services of consultants that specialize in such mailouts.

The facility operator should also determine if many of the letter recipients will be non-English speaking. If this is the case, the facility operator should notify the district so that the district letter can be modified. To address this situation, the district should consider one of the following options: 1) a two sided letter, one side in English with the other side in the appropriate second language; or 2) drafting an individual letter in the appropriate language. The facility letter (see Section D) should also reflect the fact (if this is the case) that many recipients are non-English speaking. The district may consider using five percent for any individual non-English language (within the area to be notified) as the trigger for requiring an alternative language notice.

Information necessary to determine if many of the notice recipients are likely to be non-English speaking can be obtained from the Department of Finance, Demographics Research Unit, State Census, at (916) 322-4651.

D. THE FACILITY NOTIFICATION LETTER

The purpose of this section is to specify the format for the facility's letter. In addition, this section also presents suggestions that facilities may choose to include in their letter.

It is suggested that the facility operator prepare and enclose their own letter as part of the notification package. However, all materials included in the notification package should be reviewed by the district prior to distribution. The district may choose to develop guidelines addressing the content of the facility letter. If the district determines that a facility's letter is not acceptable, they may provide suggested revisions as well as a deadline for the facility operator to make changes.

1. Format (suggested)

The format of the facility's letter should be consistent with that of the district's as is discussed in Section B of this chapter.

2. Components of the letter

The district may choose to provide the facility considerable latitude concerning the content of its letter. The facility operator may choose to prepare a brief cover letter that simply refers to the enclosed letter prepared by the district. If this is the case, the only other suggestion concerning the facility letter is that it identify a contact and phone number. If the facility operator chooses to prepare a letter that does more than simply refer to the district enclosure, it is suggested that the facility operator consider specifying: 1) the purpose for emitting the toxic substance(s); 2) steps which have already been initiated to reduce emissions; 3) plans to further reduce emissions; 4) the time, date, and

location, of a public meeting the facility operator is planning (when applicable); and 5) a facility contact. The facility operator may also choose to discuss the uncertainties associated with risk assessment and how alternative assumptions impact the estimated risks.

Purpose for emitting the toxic substance(s). It is suggested that the facility's letter provide more detail as to why the substance(s) is emitted. For instance, the substance may be a byproduct during the manufacture of a product that the public recognizes. The facility operator may also put the facility's emissions into perspective relative to other sources (e.g., automobiles, consumer products). It is suggested that the facility operator consider using the guidance presented in this chapter when developing comparative risk information.

Steps taken to reduce emissions. It is suggested that the facility use its letter to communicate any steps it has taken to reduce emissions of toxic substance(s). It is possible that the emission reductions may be in part required and in part voluntary. Nevertheless, the public should be informed of emission reductions that have occurred over the past years, particularly any reductions since the emission year upon which the risk assessment is based.

Plans for further reducing emissions. It is suggested that the facility operator consider discussing future plans to further reduce emissions of toxic substances. Specifying a percent reduction and when it will be achieved is beneficial. The district may have specific requirements concerning this discussion (e.g., the specific emission reduction plans should be enforceable).

Public meeting planned. Under the notification procedure discussed in this chapter, the public meeting recommendation is a function of public interest (i.e., if there is not public interest in a meeting, one is not recommended). However, the facility operator may prefer to schedule a public meeting in their letter prior to assessing public interest. If this is the case, the public meeting recommendations discussed in Section E should be followed.

Facility contact. The facility letter should also include a facility contact and phone number that people can call to obtain additional information.

Risk assessment results. Within the body of their letter, the facility operator may choose to discuss the risk assessment results. The facility may also choose to discuss the uncertainties with risk assessment as well as results from an uncertainty analysis. Such a discussion should be brief and not undermine the notification process. A public meeting is probably a more appropriate forum to discuss the fact that there are alternative risk assessment assumptions that can lead to different estimates of risk. The district may have specific requirements concerning this discussion.

E. PUBLIC MEETINGS

Under the notification procedure presented in this chapter, the recommendation of whether to require a public meeting is based on the public's interest in such a meeting. Preparing for a public meeting can require a substantial effort on the part of the facility as well as the district. A more desirable approach is to assess public interest and respond accordingly. Specifically, we suggest providing letter recipients the opportunity to call the district and request a public meeting as well as including a postcard as part of the notification package sent to the public. If a public meeting is required, it is the facility operator's responsibility to prepare and mail out the meeting notice and make arrangements for the public meeting.

1. The need for a public meeting

With the approach described in this chapter, the district requires a public meeting in direct response to interest expressed by the public. Simply sending out notification letters to the community without an opportunity for the public to meet with the district and facility is not desirable.

2. The purpose of the meeting

The purpose of the public meeting is to provide the notification letter recipients with more information about the facility's risk assessment results and to answer their questions.

3. Assess public interest in a meeting

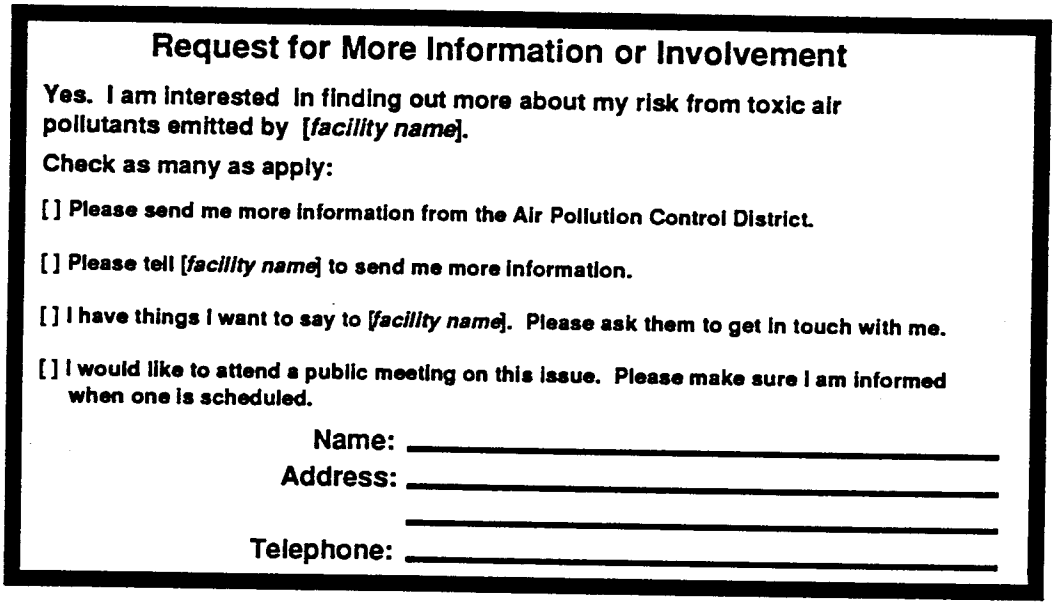
If the approach presented in this chapter is used, a postcard (with the district's return address) requesting public interest in a meeting is to be included in the notification package. The purpose of the postcard is to solicit public interest in a meeting and to make it easy for the public to respond. Therefore, the postcard should clearly state that its objective is to assess public interest in holding a meeting concerning the risk assessment results as discussed in the notice. The postcard should also include space for the recipient to specify their name and address. Finally, the postcard should also specify what happens next (e.g., all respondents will be contacted in writing within a specific period of receiving the notice concerning the public meeting that they have requested). If many of the letter recipients are non-English speaking, the postcard should include text in the appropriate language.

Figure III-3 shows a sample postcard for determining public interest. In addition to requesting a public meeting, the interested citizen can request other forms of contact. The return address on the postcard should be the district's. The district can use the postcard to assist in compiling a mailing list for other information concerning the facility (e.g., Title V

Figure III-3

Sample Postcard Assessing Interest in Public Meeting

Side 1



Request for More Information or Involvement

Yes. I am interested in finding out more about my risk from toxic air pollutants emitted by *[facility name]*.

Check as many as apply:

[ ] Please send me more information from the Air Pollution Control District.

[ ] Please tell *[facility name]* to send me more information.

[ ] I have things I want to say to *[facility name]*. Please ask them to get in touch with me.

[ ] I would like to attend a public meeting on this issue. Please make sure I am informed when one is scheduled.

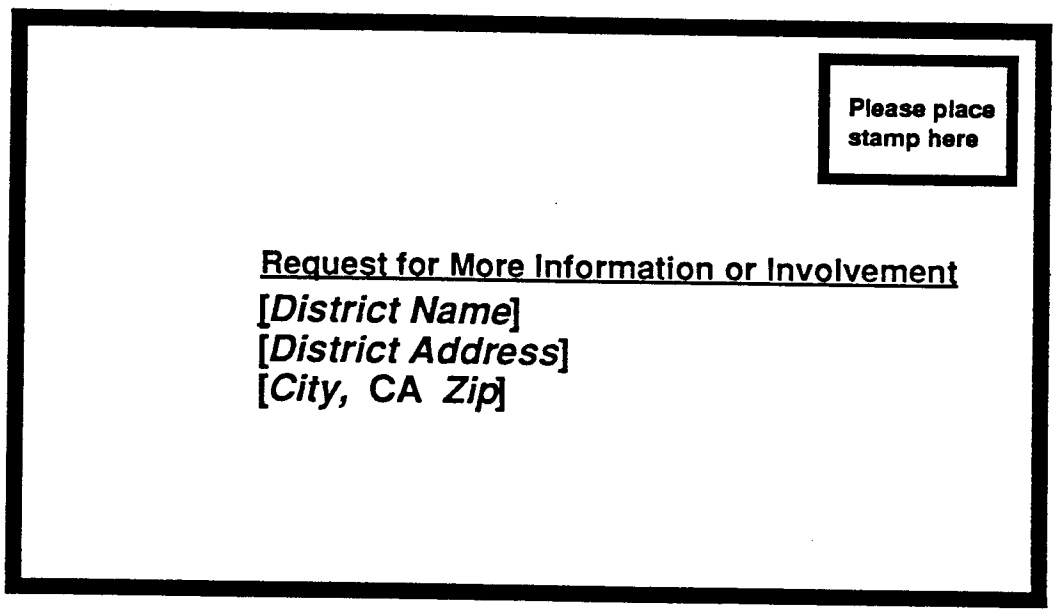
Name: _____

Address: _____

_____

Telephone: _____

Side 2



Please place stamp here

Request for More Information or Involvement

[District Name]
[District Address]
[City, CA Zip]

permit notices). In addition to the postcard, interest in a public meeting is assessed based on calls by the public to the district requesting such a meeting.

4. The meeting notice

Based on public response, the district will determine if a public meeting is required. Alternatively, the facility operator may choose to hold a public meeting without assessing public interest. For either case, the meeting notice recommendations as presented below are identical.

Components of the meeting notice. It is recommended that the meeting notice be brief but clearly state the purpose for the meeting and why its recipients should attend. The notice should also specify the time, date, and location of the meeting. It is recommended that the meeting be held when the majority of recipients are most likely to be able to attend (e.g., on a weekday or Saturday evening at a location near or within the community being notified). The meeting notice should be in the appropriate language for the recipient and mailed at least two weeks but not more than four weeks from the date the meeting is scheduled to occur.

5. Meeting format

It is important that the facility operator coordinate with the district concerning their plans for the public meeting. Specifically, the facility operator should obtain the district's approval of their plans for the meeting (e.g. the meeting notice, agenda) prior to sending out the meeting notice. It may also be necessary to include translators if non-English-speaking people are anticipated to attend the meeting. It is suggested that the facility operator identify an impartial community representative (e.g., League of Women Voters representative) to chair the meeting. The facility operator should also assess the need for security at the meeting and make appropriate arrangements.

Brief presentation. At the public meeting, it is recommended that the facility operator state the purpose of the meeting, summarize the agenda and assess the attendees' comfort with the agenda. Based on the attendees' response, the facility operator may determine whether it is necessary to modify the agenda (e.g., shorten presentation and get to questions sooner). The facility operator should prepare a brief presentation (less than 30 minutes if possible) to be given at the public meeting. The presentation should include topics such as the purpose of the Air Toxics "Hot Spots" Program, why a risk assessment was required, what a risk assessment is, results of the risk assessment, and any steps the facility has taken to reduce emissions of air toxics. It is recommended that the facility operator make an effort to anticipate public concerns and questions and incorporate answers into its presentation.

Public questions. After the facility's presentation, there should be an opportunity for the attendees to ask questions and to have them addressed. One of the keys to a successful meeting is listening carefully

to the public's questions. Some questions may not at first appear to be questions. It may help to rephrase questions to ensure that they are understood. Listening also involves observing body language which may say more than the words themselves.

It is suggested that a time limit be placed on questioners to ensure that everyone gets a chance to speak. However, meeting attendees should get the opportunity to ask all of their questions. Therefore, it may be necessary to return to questioners that originally exceeded their time limit.

It is imperative that all of the attendee's questions be addressed. Therefore, the facility operator may have to make commitments to get back to some people concerning questions that cannot be fully addressed at the meeting. It is strongly recommended that the facility operator expeditiously follow-up on any commitments made to the public. It is understood that some questions may not have well defined answers. Nevertheless, an attempt should be made to get to the question and provide a response.

Public meeting materials. The facility may also choose to provide literature for meeting attendees. It is suggested that any materials to be handed out be carefully reviewed by several individuals to avoid possible misinterpretation by the public. Any materials that the facility intends to make available at the meeting should be sent to the district several days in advance of the public meeting.

6. The district's role

It is recommended that the district attend all public notification meetings under the Air Toxics "Hot Spots" Program. The district may choose to actively participate in the meeting by giving a brief presentation or simply sit with the audience. Regardless of the approach, the district's presence should be announced at the beginning of the meeting.

It is also suggested that the district request that representatives of other agencies such as the OEHHA attend the meeting. These agency representatives may be the most appropriate to address certain questions. For example, the OEHHA is probably the most appropriate agency to describe the risk assessment approach recommended in the CAPCOA Air Toxics "Hot Spots" Program Risk Assessment Guidelines.

7. Frequency of public meeting

The notification procedure presented in this chapter suggests that, at a minimum, the need for a public meeting should be assessed once a year. Each year the notification letter is distributed it is accompanied by a postcard to assess interest in a public meeting. Therefore, if there is public interest, a public meeting is recommended on an annual basis. Based

on the interest at the meeting, the facility operator may determine that more frequent meetings with the public are desirable. As a result, the facility operator may choose to continue a dialogue with the community on a more frequent basis. This dialogue may take the form of newsletters, facility tours, and/or public meetings.

IV.

ALTERNATIVE NOTIFICATION PROCEDURE (MULTILEVEL)

This chapter briefly summarizes one example of a multiple-level notification procedure. There are numerous multilevel notification procedures that the district may develop. Appendix I presents an example of a multilevel notification procedure developed by the Bay Area Air Quality Management District.

The district may prefer to use a notification procedure that consists of varying requirements as a function of the estimated risk associated with a facility's emissions. For example, the higher the risk above the district's notification threshold, the more stringent the notification requirements.

The multilevel notification procedure presented here is simple in that it only consists of two levels and relies heavily on the single-level procedure discussed in Chapter III.

A. LEVEL 1 NOTIFICATION

The only difference between the Level 1 procedure and the single-level procedure presented in Chapter III is the frequency of notifications and public meetings. Specifically, it is suggested that the Level 1 procedure include the distribution of notification letters on a biennial basis (every two years). This frequency coincides with the biennial update provisons of the Air Toxics "Hot Spots" Program. As with the noticing recommendations, a public meeting (if required) would be on a biennial basis.

As specified throughout the CAPCOA guidelines, the district establishes the carcinogenic and noncancer notification thresholds. As an example, the threshold for a Level 1 notification could be a carcinogenic risk equal to or greater than 10 in a million and less than 100 in a million. For noncancer health risks, the notification thresholds could be the same as the example described in Chapter III. Specifically, for an HI or THI greater

than one, the district would consider whether notification is appropriate. The district may choose to consult with the OEHHA on a case-by-case basis when making such a determination.

B. LEVEL 2 NOTIFICATION

The only difference between the Level 2 procedure and the Level 1 procedure is the frequency of notifications and public meetings. Specifically, it is suggested that the Level 2 procedure include the distribution of notification letters at least two times a year. As with the noticing recommendations, a public meeting (if required) would be held at least twice a year.

As an example, the threshold for a Level 2 notification could be a carcinogenic risk equal to or greater than 100 in a million. As with a Level 1 notification, the example notification threshold for noncancer health risks for a Level 2 notification could be the same as those described in Chapter III. Specifically, an HI or THI equal to or less than one would not trigger notification. However, for an HI or THI greater than one, the district would consider whether notification is appropriate. The district may choose to consult with the OEHHA on a case-by-case basis when making such a determination.

V.

INDUSTRYWIDE NOTIFICATION

Chapters III and IV discussed notification procedures that can be followed where the estimated risks posed by a facility exceed the district's notification threshold(s). However, there may be cases where the procedures discussed in Chapter III and IV are not practicable. The purpose of this chapter is to provide the district with guidance for addressing industrywide notifications.

The Air Toxics "Hot Spots" Act provides for the preparation of industrywide emission inventories by the district. The district has the discretion to prepare industrywide emission inventories for first and second phase facilities (i.e, facilities which were required to submit emission inventory plans to the district by August 1, 1989 and August 1, 1990, respectively) that meet specific criteria. The district is required to prepare industrywide emission inventories for third phase facilities (i.e., facilities which were required to submit emission inventory plans to the district by August 1, 1991) meeting these same criteria.

A. INDUSTRYWIDE RISK ASSESSMENTS

The district may prepare an industrywide risk assessment(s) for facilities addressed under the industrywide emission inventory. The risk assessment may consist of an analysis of each facility or be of a more generic nature. For example, in certain cases it may be possible to estimate the risks posed by all facilities (or a subset of facilities) addressed by an industrywide emission inventory without performing an individual risk assessment for each facility represented. Some facilities may be similar enough so that it is possible to characterize their potential risks through use of a limited number of facility specific parameters (e.g., emissions, distance to receptors, release height). Using this type of information, the risk for any given facility represented by an industrywide risk assessment could be estimated without actually performing a risk assessment for each facility.

Based on the results of the district's industrywide risk assessment, certain facilities or an entire class of facilities may be required by the district to notify because the estimated risks exceed the district's notification threshold.

B. INDUSTRYWIDE NOTIFICATION APPROACH

The premise for industrywide notification is that a notice can be used to inform those exposed about potential risks from a certain class or subset of a class of facilities. It is the district that identifies which facilities are to be grouped for an industrywide notification. For notification purposes, the district may determine that it is necessary to break up facilities addressed under the same industrywide risk assessments.

For example, if 50 facilities were covered under an industrywide risk assessment, the district may determine that 25 of the facilities are likely to exceed the notification threshold and therefore must notify. Of the 25 facilities that must notify, the district may determine that five should perform individual notifications (e.g., the procedure described in Chapter III) with the remaining 20 covered under an industrywide notification. Furthermore, the district may determine that it is not appropriate to represent all 20 facilities with the same notice. For example, the district may determine that six of the 20 facilities are similar in terms of the order of magnitude of estimated risks and should therefore be covered under one notice with the remaining 14 facilities covered by a second notice.

Once the facilities covered under an industrywide notification are identified, the district prepares the notice. However, facilities covered under the industrywide notification are responsible for publishing the notice. Figure V-1 presents a flowchart of the industrywide notification procedure that is presented in this section.

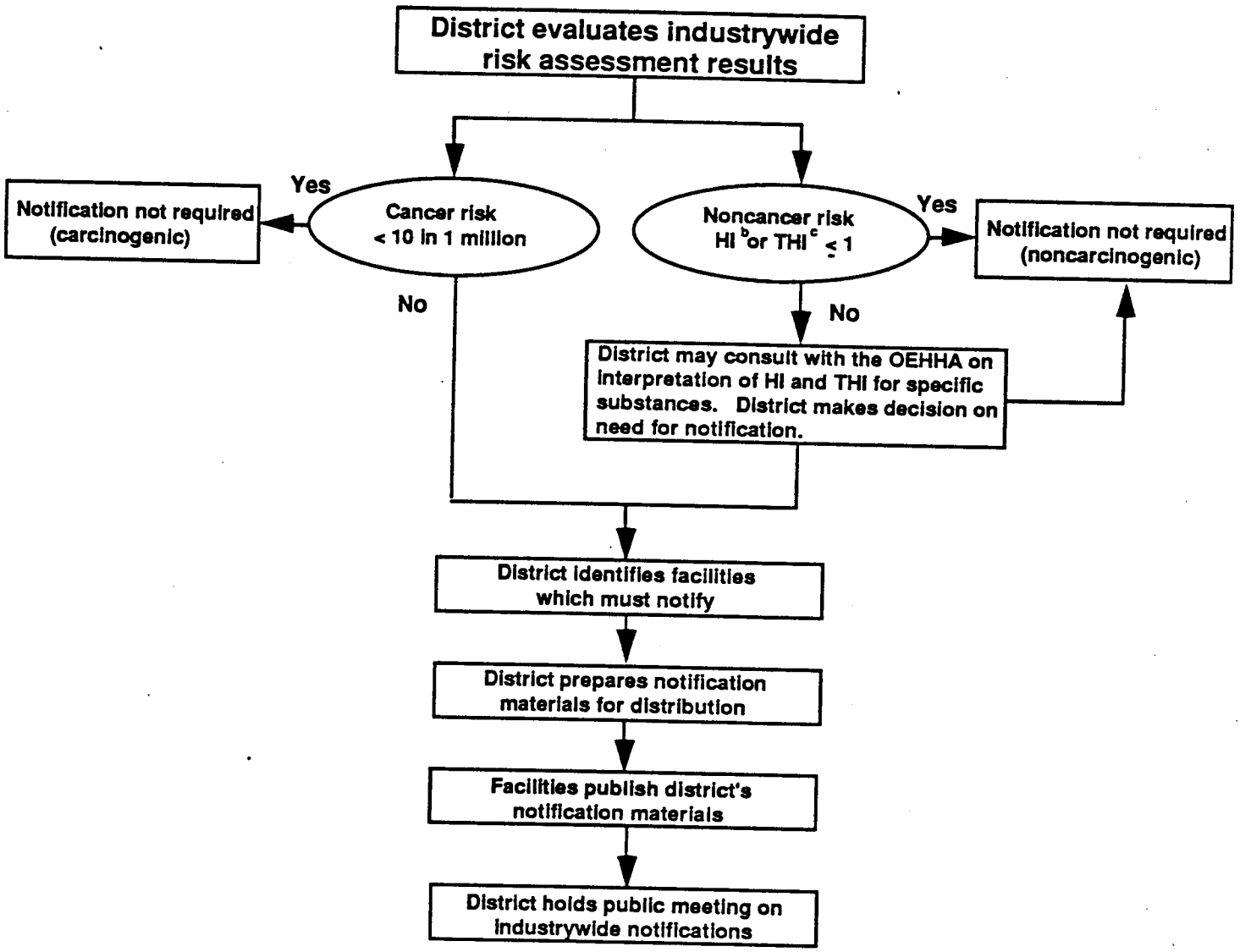
C. THE NOTICE

It is suggested that the district prepare the industrywide notification materials. Figure V-2 provides a sample industrywide notification message for carcinogenic risk. Appendix J provides a sample industrywide notification message for noncancer health risk.

1. Purpose of industrywide notification

Like the notice for individual facilities (as discussed in Chapter III), the industrywide notice should be clear as to why the notice has been published.

Figure V-1
Flowchart of Industrywide Notification Procedure[a]



Footnotes

a - The notification thresholds presented in this figure are examples. The district may specify thresholds that differ from those presented.

b - HI = Hazard index

c - THI = Total hazard index

Figure V-2
Sample Industrywide Notification Message
(carcinogenic risk)

Public Notice

(Exposure to Toxic Air Pollutants)

This notice informs you that you may be exposed to toxic air pollutants. State law requires that the facilities listed below notify you of possible health risks resulting from routine emissions of toxic air pollutants.

Facility A Address	**Facility B Address**	**Facility C Address**	**Facility D Address**	**Facility E Address**
Facility F Address	**Facility G Address**	**Facility H Address**	**Facility I Address**	**Facility J Address**

These facilities ***[use and]*** emit ***[emitted substance(s)]*** into the air ***[to produce product].*** The emitted substances are toxic air pollutants and exposure may increase your risk of getting cancer.

The [***district name***] has written a report used to estimate possible health effects from exposure to toxic air pollutants released by each of the listed facilities. The report has been prepared with the help of state health experts.

Based on the report, exposure to emissions from any one of the listed facilities may increase your risk of cancer by as much as adding ***[number]*** chance(s) in ***[number].*** The estimate is based on assumptions designed to protect sensitive people in the population. These assumptions include. 1) That you will be exposed to the emissions for 70 years. 2) That you live within approximately ***[number]*** feet of any one of the listed facilities. If these conditions do not apply to you, your risk is likely to be lower. This estimate does not consider past exposures or exposure to other toxic air pollutants besides those released by any one of the listed facilities.

To give you an idea of how the health impact from any one of the listed facilities fits in with current air pollution problems, we can provide the following comments. The cars we drive, factories, and many of the home products that we use contribute to our air pollution problems. On average, in California, the risk from currently measured air toxics may increase your risk of cancer by adding approximately ***[number]*** chance(s) in ***[number].*** While this is only a rough estimate, we hope that it helps you to put the estimated risks into perspective.

The ***[district name]*** and the state are taking [many] steps to reduce emissions of toxic air pollutants. If you have any questions, please call the district at the number provided below.

If you have questions concerning this notice or want to obtain more information, please call the [*district name and address*] at [*district phone number*].

2. Substance(s) emitted

The notice should also specify the substances that are emitted by the facilities (i.e., at least those substances responsible for the facilities having to notify) covered under the industrywide notification. For example, if the facilities are required to notify because the estimated risks exceed the district's carcinogenic notification threshold, all emitted carcinogenic substances should be specified.

3. Identify facilities

The notice should also identify by name and address the facilities covered by the notice.

4. Risk assessment results

The notice should specify that the district has prepared a risk assessment (or risk assessments) to represent the listed facilities. It should go on to describe the purpose of a health risk assessment before presenting the results. Finally, the results of the risk assessment should be presented similar to the notices described in Chapter III. However, we are suggesting here that the estimated risks presented in the notice be the maximum risk that would be expected for any of the facilities covered by the notice. It is also suggested that the notice include an indication that the estimated risk assumes that a person is exposed for 70 years and lives a certain distance from the facility.

5. Putting risks into perspective

It is suggested that the risk assessment results in the notice be put into perspective by making an appropriate comparison. As described in Chapter III, there are a multitude of inappropriate comparisons that should not be included in the letter. Refer to Chapter III Putting risks into perspective for guidance on appropriate risk comparisons.

6. District contact

The notice should identify a district contact person to answer any questions that people may have. Community interest in response to a given notification may be high and as a result lead to numerous calls to the district. It is critical that the district plan for such requests and have a staff person(s) prepared to address questions from the public (it may also be necessary to have bilingual staff available to respond to public inquiries). It is strongly recommended that the district respond to these calls within the same day. If calls are not promptly returned, the effectiveness of the notifications may be compromised.

D. PUBLICATION OF THE NOTICE

Once the district prepares the notice, it is the facilities' responsibility to ensure that it is published. It is important that the facilities or organization representing the facilities present their plans for distributing the notice to the district prior to proceeding.

It is suggested that publication in a newspaper(s) is sufficient for an industrywide notification. However, it is the facilities' responsibility to ensure that all necessary efforts are made to get the notice to those located in areas where the notification threshold is exceeded. The facility operator should publish the notice in papers with the greatest circulation in the areas to be notified (in some communities this may mean publication in several papers including local neighborhood newspapers). If those in the notification area are non-English speaking, the facilities should also publish the notice in the appropriate language(s).

It is also suggested that any newspaper notice be no smaller than two columns by eight inches or three columns by five inches (one eighth of a page) and run in the paper for at least one week. In addition, it is suggested that the notice appear in the main news section of the newspaper or in the local segment of the newspaper which is circulated in the area being notified. The district should consider limiting the number of facilities covered under one industrywide notice (e.g., 25 facilities). Finally, it is suggested that the notice indicate any readily recognizable region of the city or area where the facility is located (e.g., the downtown area of a city) beyond the address and city.

E. INDUSTRYWIDE PUBLIC MEETING

It is suggested that the district hold a public meeting for those facilities covered under an industrywide risk notification.

F. FREQUENCY OF NOTIFICATION

At a minimum, it is suggested that the district's notice be published on an annual basis. However, the district may determine that more frequent notifications should be made. The notification frequency suggested here does not comply with the requirements of Proposition 65. To comply with Proposition 65 requirements, the facility operator may choose to publish the notice on a quarterly basis. The facility operator should contact the OEHHA to determine if such an approach satisfies Proposition 65 requirements.

G. CUSTOM NOTICES

To respond to public requests resulting from the industrywide newspaper notice, the district may choose to develop custom notification letters. The purpose of this letter is to respond to public requests for more specific

information. The industrywide notification procedure discussed in this section presents the highest risk of any of the facilities represented. If someone (e.g., industrywide notice recipient) wants an estimate of their risk near a particular facility, the district would be able to respond with a custom letter. The letter would include an estimate of the risk to the individual making the request, taking into account approximately how far the person lives from the facility of interest. The estimate of risk may be based on a look-up table that the district develops for a certain source category that considers factors such as emissions, potency or toxicity, receptor proximity, release height, and local meteorology. The custom notices are not intended to replace communication (telephone conversations, meetings) between the district and the public. Instead, it is suggested that these notices can augment the process if the district determines it to be appropriate. Appendix J provides a sample custom notification letter for carcinogenic risk.

APPENDIX A

SUMMARY OF COMMENTS, RESPONSES, REVISIONS, AND COMMENT LETTERS ON THE JUNE 1992 DRAFT CAPCOA AIR TOXICS "HOT SPOTS" PROGRAM PUBLIC NOTIFICATION GUIDELINES

Appendix A

Summary of Comments, Responses, Revisions, and Comment Letters on the June 1992 Draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines

Proposition 65 Coordination

1) Comment:

It may be necessary to stress that exposure to Proposition 65 reproductive toxicants are exempt from the warning requirement if the exposure will have no observable adverse effect on reproduction, assuming exposure at 1000 times the level in question (OEHHA, 1992).

Response:

We agree.

Revision:

Add text to Chapter I, H, further illustrating the differences between the "Hot Spots" Program and Proposition 65 with regard to notification and warning thresholds, respectively.

2) Comment:

We are concerned about bounty hunters using "Hot Spots" risk assessment results to bring Proposition 65 lawsuits (Workshop, 1992b).

Response:

The information developed and reported under the "Hot Spots" Program is available to the public. However, it is our understanding that districts are clearly conveying the status of draft risk assessments to potential users of this information. Specifically, districts are explaining that the results in unapproved risk assessments have not been through the approval process and as such are subject to change.

Revision:

No change.

3) Comment:

Is it possible to better coordinate the "Hot Spots" Program with Proposition 65? (Workshop, 1992b).

Response:

During the development of the guidelines, we have worked closely with the Proposition 65 group at the OEHHA as well as the State Attorney

General's Office to coordinate "Hot Spots" Program notifications and Proposition 65 warnings to the extent possible. However, because Proposition 65 and the "Hot Spots" Program have differing objectives and requirements, compliance with one law does not ensure compliance with the other. The guidelines stress that facility operators contact the OEHHA to determine what is required under Proposition 65 and if their "Hot Spots" Program notification (if required) meets Proposition 65 requirements.

Revision:

Revise guidelines (throughout) to include additional suggestions that facilities contact the OEHHA concerning information on complying with Proposition 65 warning requirements.

Non-English Notifications

4) Comment:

We suggest industry be provided more explicit guidance for communication to non-english speaking persons who are exposed to air toxics. In Chapter III, page 12, item 2, we recommend that the words "should" and "may" be changed to "must" or "shall". We recommend a similar change to page 17, C, paragraph 3. (L.A.D.A., 1992)

Response:

More explicit guidance on assessing the need for non-English letters is provided under Chapter III, C. Since the guidelines are just that (i.e., guidelines), it is not appropriate to make the suggested revisions.

Revision:

No change.

5) Comment:

We recommend that the first sentence in Chapter III, C, be changed to read:

"Facility operators in multi-ethnic communities, where the operator knows or should know that more than 5 percent of the population speaks a language other than English, has an affirmative obligation to exercise reasonable diligence to determine the language of those exposed and provide warnings in the appropriate language." (L.A.D.A., 1992).

Response:

We agree with the spirit of the comment.

Revision:

Revise Chapter III, C, to include the suggestion that the district consider using 5 percent for any individual non-English language (within the area to be notified) as the trigger for requiring an alternative language notice.

6) Comment:

We recommend that the secondary language notification requirement be limited to a set of minimum percentage of the overall affected population (LOF, 1992).

Response:

Refer to the proposed revision under comment 5.

Revision:

Refer to the proposed revision under comment 5.

7) Comment:

We note that each district should be staffed so that the interested public who wish to obtain additional information including those who do not speak english, can access persons by means of a direct telephone call (L.A.D.A., 1992)

Response:

Chapter III, B, 3, Contact person, currently includes a suggestion that is consistent with your comment.

Revision:

No change.

8) Comment:

In the population which has been identified as our potential notification area, there are in excess of 60 languages in use. Therefore, a two-sided (English and the other language) letter is not practical (LOF, 1992; Workshop, 1992c).

Response:

Clearly, a two-sided letter in and of itself will not work in this situation. However, the district has several options that it may choose to consider, one of which is to require a combination of letters and newspaper notices.

Revision:

No change.

9) Comment:

The guidelines should suggest that district notification letters be printed in Spanish on the reverse side of every letter sent (McWilliams, 1992).

Response:

The guidelines suggest that the population to be notified be assessed by facility operators to determine the need for non-English notices. The purpose is to ensure that non-English speaking persons are adequately notified of significant health risks determined under the "Hot Spots" Program. Individual districts may require facilities to print and distribute two-sided (English and Spanish) notices automatically. However, this approach does not negate the facility's responsibility to determine the need for other non-English notices.

Revision:

No change.

10) Comment:

The guidelines should be translated into different languages for the benefit of the significant and interested minority groups living in the state of California. This will enhance the public participation process and will help to inform those minorities who are unfamiliar with the program (McDavid, 1992; Workshop, 1992a).

Response:

The primary purpose of the guidelines is to provide districts with a tool, which can be used at their discretion, for developing district public notification requirements. When districts develop their notification procedures, they will assess the need for publishing such materials in non-English languages.

Revision:

No change.

Mode of Notification

11) Comment:

We recommend that the level 1 notification be made by newspaper. Newspapers are more likely to inform. It has the added benefit of

reaching more of the "english as a second language" population (LOF, 1992; Workshop, 1992c).

Response:

The CAPCOA AB 2588 Risk Assessment Committee, as well as many commentors at our workshop prior to developing the guidelines, believes that direct letters are a more desirable approach for notifying those that are exposed. However, the committee acknowledges that in certain instances newspaper notifications may be more appropriate.

Revision:

No change.

12) Comment:

The guidelines should include some form of cost-benefit analysis for how notification is provided. Newspaper notifications may actually be read by members of the public who choose to be informed as opposed to, unsolicited, and ultimately discarded mailings.

Also, newspaper notifications would ease compliance with the secondary language requirement. Notices in appropriate languages could be placed in appropriate language newspapers (LOF, 1992; Workshop, 1992c).

Response:

Refer to proposed response to comment 11. The guidelines include suggestions for notifying second-language populations. One approach is a two-sided letter (one side English with the other side in the appropriate second language).

Revision:

No change.

13) Comment:

We propose that newspapers be included as an option in the notification media. Notifying by newspapers can be much less expensive than notifying by letters. In addition, this approach is consistent with the notification method available in Proposition 65 and AB 2588 (Hughes, 1992a; Workshop, 1992c).

Response:

For general notifications, the guidelines stress individual notices. We believe that such notices are more likely to reach those exposed and more likely to be read than newspaper notices. However, individual

districts may choose to provide for newspaper notices. Under Proposition 65, a newspaper notice is not necessarily acceptable. We suggest that the commentor contact the OEHHA or the State Attorney General's Office for specific guidance on complying with Proposition 65.

Revision:

No change.

Other Notification Procedures

14) Comment:

We prefer the multilevel notification procedure over the single level procedure and believe that most air districts will concur if fully informed (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; LOF, 1992; Workshop, 1992a; Workshop, 1992c).

Response:

Each district will develop notification procedures that they believe to be most appropriate.

Revision:

No change.

15) Comment:

Please review the proposed SCAQMD, AB 2588 Notification Guidelines submitted to SCAQMD by the California Aerospace Environmental Associations and, if appropriate, merge them with the CAPCOA Public Notification Guidelines (Hughes, 1992b).

Response:

These materials were distributed to the CAPCOA AB 2588 Risk Assessment Committee for review.

Revision:

No change.

16) Comment:

We recommend adopting the BAAQMD's letter notification format. Specifically, the letter format is different for each level of risk (LOF, 1992).

Response:

The AB 2588 Risk Assessment Committee, of which the BAAQMD is a member, considered the BAAQMD's procedures and letters when developing the guidelines. In addition to benefiting from the BAAQMD's notification experience, the guidelines reflect the comments and suggestions provided during public workshops as well as those provided by the committee members.

Revision:

No change.

17) Comment:

We believe that the BAAQMD level 1 notifications format are adequate to inform the public of the health risk to which it is exposed in a straightforward manner. As the potential risk increases, the notification should be more detailed and frequent (LOF, 1992).

Response:

Refer to the proposed response to comment 16.

Revision:

No change.

18) Comment:

Make the district's notification letters more user friendly. The current tone is bureaucratic. Consider the BAAQMD sample letter for level 2 or level 3 facilities (WSPA, 1992a; Workshop, 1992c).

Response:

Refer to the proposed response to comment 16.

Revision:

No change.

19) Comment:

Mention the disadvantages of the single-level notification procedure. The Guidelines should mention the possibility that the single-level approach might mislead the public with the idea that the air cancer problem is a "threshold" situation, which is not necessarily the case (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Workshop, 1992a).

Response:

A possible disadvantage of the single-level procedure is presently discussed in the guidelines.

The single-level procedure does not convey the idea that carcinogenic risk is a threshold situation anymore than the first level of the multilevel procedure. Each procedure has thresholds above which some degree of notification is required and below which notification is not required.

Revision:

No change.

Protection of Sensitive Individuals

20) Comment:

The district sample notification letter does not explain how children and the elderly will be affected due to chemical exposure (McDavid, 1992).

Response:

The health values recommended by the OEHHA (i.e., AELs for noncancer effects and unit risk factors for carcinogenic effects) are intentionally designed to avoid underestimating the risk to sensitive individuals in the population. The OEHHA regards children, the elderly, the ill, pregnant woman and unborn children as sensitive individuals.

Revision:

Revise the second sentence, fourth paragraph of Table III-1 (now Figure III-2) to read "The estimate is based on assumptions designed to protect sensitive people in the population. These assumptions include:"

21) Comment:

State the uncertainty of the risk assessment. Clarify that the risk estimate is intentionally a high-side (conservative) estimate. Because risk assessment is an uncertain science, it is wise to take steps to ensure the risk is overrated rather than underestimated (WSPA, 1992a).

Response:

The draft district notification letters currently describe some of the conservative assumptions associated with the estimated risk (i.e., assumed 70 year exposure period, distance of maximum impacted receptor to the facility fenceline).

Revision:

Refer to the proposed revision under comment 20.

22) Comment:

The guidelines place too much emphasis on the cancer risk threshold of ten in one million. This number can mislead the community and can be questioned when protecting sensitive subpopulations such as children and elderly people (McDavid, 1992; Workshop, 1992a).

Response:

The guidelines use ten in one million as an example notification threshold for carcinogenic risk. It is the district that establishes the notification requirements which facilities must follow.

The unit risk factors and acceptable exposure levels recommended by the OEHHA for use in Air Toxics "Hot Spots" Program risk assessments are developed in consideration of sensitive subpopulations (e.g., children, elderly). Specifically, these health guidance values are health protective in that they are developed to protect sensitive individuals in the population.

Revision:

Add language to Chapter III, A, to clarify the health guidance values recommended for use by the OEHHA are intended to protect sensitive individuals in the population.

Putting Risks into Perspective

23) Comment:

Include comparisons to other cancer risks. For further context, include the total risk of 1 in 4 (250,000 in a million) (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c: Workshop, 1992a).

Response:

This is a comparison that an individual district may choose to use as as part of their notification letters. However, the CAPCOA AB 2588 Risk Assessment Committee elected not to include this example in the guidelines. The basis for not including this example in the notification letter is that presenting it requires that it be properly characterized. Specifically, it must be pointed out that the majority of the risk associated with this number is due to voluntary activities whereas the risk associated with the facility's emissions is of an involuntary nature. The letter must go on to give examples of voluntary and involuntary exposures to adequately convey the message.

Revision:

No change.

24) Comment:

Include graphs or bar charts. For example, add a graphic that compares the three risks: 1) total cancer risk; 2) total cancer risk due to air toxics,; and 3) the total cancer risk due to the neighborhood facility. However, it is not suggested that a map with isopleths be presented as part of a notification package (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Workshop, 1992c).

Response:

We agree that presenting appropriate comparative risk information in the form of a graph may be beneficial.

Revision:

Revise Chapter III, B, 3, Putting risks into perspective, to state that the district may choose to consider presenting comparative risk information in the form of a graph or map showing the area covered under the notification. It is the district that will determine which, if any, comparative risk information is appropriate for presenting in the district letter.

25) Comment:

It is recommended that risks associated with ambient air toxics in specific regions be included in the guidelines for putting risks into perspective (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Workshop, 1992a).

Response:

We plan to make this type of information available to interested districts/facilities. However, the summaries are not expected to be available at the time the guidelines are finalized.

Revision:

No change.

26) Comment:

The inclusion of the risk associated with background concentrations of air toxics is inappropriate. Such a comparison bears virtually no relationship to the actual background exposure for the notice recipient. In addition, such calculated risk assessments are far more questionable than source specific risk assessments, so their inclusion

undermines the legislative intent of AB 2588. The district notification letters should play no role in assisting in the dilution of the effectiveness of this program. Therefore, I suggest deleting paragraph five from the sample notification letter (McWilliams, 1992).

Response:

The purpose of including the risks associated with ambient air toxics in the notification letter is to assist with putting the risks into perspective. We believe that presenting such information enhances the credibility of the notification. Specifically, presenting ambient air toxics risks conveys the message that individuals are exposed to air toxics beyond those resulting from a specific facility's emissions and that the risks associated with exposure may be considerable. In addition, presenting ambient air toxics risks can be used to convey the message that everyday activities such as driving contribute to ambient concentrations of air toxics.

Revision:

No change.

27) Comment:

The guidelines should continue to set standards for what the industry attachment can include in terms of comparative risks (McWilliams, 1992).

Response:

Currently, the guidelines specify that the facility operator may choose to include, as part of their letter, information on putting risks into perspective. In addition, any comparison that the facility chooses to include in their letter is subject to district review. However, it may be helpful to refer to the guidance concerning putting risks into perspective.

Revision:

Add a sentence to III, D, 2, Purpose for emitting the toxic substance(s), that suggests that facilities consider using the guidance provided under III, B, 3, Putting risks into perspective, when developing such comparisons.

Review of District Procedures

28) Comment:

The facility should be given the opportunity to approve the district's letter (Workshop, 1992c).

Response:

If $e district uses the approach in the guidelines, the facility would have the opportunity to review and comment on the district's letter during the development of the district's notification procedures. Specifically, a generic district letter would be developed by the district as part of their notification requirements. During its development, facilities as well as others could comment on the district letter.

Revision:

No change.

29) Comment:

It is recommended that the district's press release(s) discussing the health risk assessment results be reviewed by an ad hoc public notification committee and should include the same kind of information regarding putting risks into perspective that the actual notices contain (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Workshop, 1992a).

Response:

It is the district that will choose if the establishment of a public notification committee is beneficial. The district will also specify what elements the notification committee is responsible for assisting in developing. Currently, the guidelines suggest that the district establish a public notification committee. One of the purposes of such a committee is to be responsible for reviewing district notification procedures and related materials.

Revision:

No change.

30) Comment:

The guidelines should include the suggestion that districts communicate with individual facilities prior to releasing their health risk assessment results to the press (Chevron, 1992).

Response:

See response to comment 29.

Revision:

No change.

31) Comment:

We recommend that any press release prepared by the district that includes health risk assessment results be reviewed by the public notification committee (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Chevron, 1992).

Response:

Refer to the proposed response to comment 29.

Revision:

No change.

Emission Reductions

32) Comment:

In the event that facilities which have permanently reduced their health risk below the notification requirement level are still required to notify, the language of the sample letter in Table III-1 (page 13) (now Figure III-1) is inappropriate.

For these cases, the district letters should discuss exposure and risk in the past tense, and include the current level of risk and a summary of steps taken by the facility to reduce the emissions. If this is not done, residents may believe that they are still being exposed to a significant health risk (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Chevron, 1992; Workshop, 1992a).

Response:

The CAPCOA Air Toxics "Hot Spots" Program Facility Prioritization Guidelines and Risk Assessment Guidelines included a provision concerning emission reductions. Specifically, these guideline documents specified that districts had the discretion to base prioritization results and/or risk assessment results on emission reductions which facilities had made since submittal of their emission inventory report. These guideline documents suggested that the emission reductions be enforceable and permanent prior to submitting the health risk assessment to the district.

With the above approach, any required notifications are based on results reported in the approved health risk assessment. Thus, the sample notification letters provided in the guidelines are appropriate. However, if enforceable and permanent emission reductions have taken place since submittal of the risk assessment, the notification letter could present the results in the health risk assessment and note that permanent emission reductions have taken place. In addition, the

facility letter may include more detailed information on steps taken to reduce emissions and risk associated with air toxics.

Revision:

Add a sentence to III, B, 3, The health risk assessment, that suggests that the district letter indicate if enforceable and permanent emission reductions have taken place since the period on which the risk assessment is based.

33) Comment:

As long as an applicant files a permit application to reduce emissions below the threshold for significance under the threat of enforcement and has fully complied, it is lawful to allow a waiver of the public notification provisions because such emissions are temporary and insignificant (LOF, 1992; Workshop, 1992c).

Response:

Refer to the proposed response to comment 32.

Revision:

No change.

34) Comment:

The proposed level of significance triggering public notification should hinge upon a routine and continuing exposure. If air toxics will be reduced below the level of significance by industry in the near future and represent an exposure period less than that used in calculating the risk, a notification will unnecessarily alarm members of the public with information that will inaccurately covey a risk that will be eliminated is the short-term. Utilization of authority to construct applications would weed out temporary insignificant emissions. Therefore, we request that CAPCOA consider the length of actual exposure and waiver of public notification for actions taken pursuant to a permit within a period of time to reduce public exposure (LOF, 1992).

Response:

Refer to the proposed response to comment 32.

Revision:

No change.

Notification Thresholds

35) Comment:

Do not trigger notification for nuisance standards. Chapter III, A, page 11, of the guidelines state that OEHHA is currently identifying additional substances besides lead, for which a more stringent level may be appropriate. This would cause notification to individuals not exposed to a health risk. For example, a HI of 5 for H_2S is based on odor annoyance standard instead of a true health hazard. OEHHA should not make those decisions in a closed room. But should open up the process to allow public discussions. We request additional public workshops to discuss OEHHA's upcoming proposed changes (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Chevron, 1992; Workshop, 1992a).

Response:

Hydrogen sulfide is an odorous substance and a criteria air pollutant with a California ambient air quality standard (CAAQS). Nausea, headache, and vomiting are responses that some people have to noxious odors, such as the odor of H_2S. This response can occur in sensitive individuals at the CAAQS. While not considered a classical toxicological response, these are adverse health effects.

In addition, for notification under the "Hot Spots" Program, the OEHHA does not determine what level of exposure constitutes a significant health risk. This is to be determined by the district.

Revision:

Revise the guidelines to suggest that districts consider consulting with the OEHHA for guidance concerning notification in the event that estimated exposures exceed a hazard index or total hazard index of one. Therefore, the suggested noncancer notification thresholds currently in the guidelines are to be deleted.

36) Comment:

Suggesting a hazard index of five as basis for notification is completely unacceptable and tells me that the community can be exposed to a concentration five times over the acceptable exposure level (McDavid, 1992; Workshop, 1992a).

Response:

Refer to the proposed response to comment 35. The AEL is a level at or below which the OEHHA does not expect there to be adverse health effects. There is a large margin of safety built into almost all of the AELs. Therefore, it can not be stated that a hazard index above one will definitely result in adverse health effects. Since the margin of safety varies with each chemical, the OEHHA believes it is most reasonable to consult with the district on a case-by-case basis when determining the significance of hazard indices above one.

Revision:

Refer to the proposed revision under comment 35.

37) Comment:

We believe believe that the carcinogenic notification threshold should be one thousand in one million (Workshop, 1992a).

Response:

Each district will specify the carcinogenic notification threshold under the "Hot Spots" Program.

Revision:

No change.

38) Comment:

What if the facility must notify because the cancer and noncancer notification thresholds are exceeded? Are two letters sent? (Workshop, 1992a).

Response:

In this situation it is expected that the district would present the carcinogenic risk and noncancer risk information in the same letter.

Revision:

Revise Chapter III, B, 3, Components of the letter, to specify that the district should consider merging the information in the carcinogenic and noncancer sample letters in the event that notification thresholds for both effects are exceeded.

Facility Notification Letter

39) Comment:

Free the facility notification from district control. Facilities should be allowed to develop their own notification letters. Requiring advance approval by the district of the facility letter will:

1) discourage facilities from developing substantial explanatory materials.

2) discourage innovative, experimentation, and responsiveness to local conditions.

3) tie up the district's time and delay notification.

4) possibly result in a deadlock where the district will not accept the facility letter and the facility will not sign the letter that the district will approve.

5) unnecessarily commit the district's position to the communication efforts of the facility. This will weaken the facility management's accountability. Facility operators can simply blame any communication failures on the districts saying we did it their way. It is wiser to preserve the districts independent stature and credibility (WSPA, 1992a).

Response:

The districts are the primary agency responsible for implementing the "Hot Spots" Program. To maintain credibility and avoid undermining the notification process, the guidelines suggest that the district review all notification materials (including the facility letter) prior to distribution. As an alternative to reviewing each facility letter, some districts may choose to develop guidelines for facilities on the preparation of the facility letter. Regardless, facilities are encouraged to work with the district to develop acceptable innovative approaches for effectively communicating with the exposed public.

Revision:

No change.

40) Comment:

We are concerned that the letter prepared by the facility may undermine the district's notification letter (OEHHA, 1992).

Response:

This is precisely the reason that the guidelines recommend that the facility letter be reviewed by the district prior to distribution.

Revision:

No change.

Reported Risks

41) Comment:

The guidelines should recommend that districts report all scores on an equivalent basis, either the risk at the MEI or the risk at the nearest residual receptor (Chevron, 1992; Workshop, 1992a).

Response:

The risk assessments prepared for the "Hot Spots" Program may include several risk estimates. For example, they may include the maximum offsite risk as well as the maximum offsite risk at an existing receptor. In addition, the risk assessments may report risks at other specified receptors (e.g., schools, hospitals, etc.). Depending upon the objective, any one of these estimates may be appropriate. For instance, for determining if notification is required under the "Hot Spots" Program many districts rely on the maximum risk at an offsite receptor as opposed to the MEI. Therefore, it is important to stress what risk is being reported.

Revision:

No change.

Industrywide Notifications

42) Comment:

For the industry-wide notifications, it may be important to limit the number of facilities identified in the notice, to specify the size of the notice, and to allow certain types of facilities that have multiple, easily identifiable or commonly, recognizable locations to refer to such locations by a description instead of a street address (OEHHA, 1992).

Response:

We agree.

Revision:

Revise Chapter, V, D, to include the suggestion that the notice be no smaller than 2 columns by 8 inches or 3 columns by 5 inches (one eighth of a page) and appear in the main news section of the newspaper or in the local segment of the newspaper which is circulated in the area being notified. In addition, it is suggested that no more than 25 facilities be included under one notice. An indication of the region of the city that the facility is located in will be included. Finally, the guidelines will be revised to suggest that the district consider requiring that newspaper notices run for at least one week.

Public Meetings

43) Comment:

Public meetings should not be mandatory. The need for a public meeting to aid in fulfilling the notification requirement should be the decision of the affected facility. Instead, the guidelines should

recommend that the districts recommend meetings, not require them. (WSPA, 1992a).

Response:

We believe public meetings are an integral part of the notification process. Public meetings provide the forum necessary to better explain the complexities of risk assessment and its associated uncertainties, as well as efforts being undertaken to reduce emissions of air toxics. As such, the guidelines recommend that the need for a public meeting be assessed. If there is interest, the guidelines recommend that the district require that a public meeting be held.

Revision:

No change.

Miscellaneous

44) Comment:

Guidance should be given to increase the likelihood that the letter will be read and understood. Both the letter and the envelope should have in large, boldface type the words "Health Warning" (L.A.D.A., 1992)

Response:

We believe the draft letter is sufficiently succinct to be read and understood without the addition of "Health Warning". However, the suggestion that the envelope include an indication of the nature of the letter is appropriate.

Revision:

Revise Chapter III to include the suggestion that the district envelope indicate the nature of its contents (e.g., Public Notice: Exposure to Toxic Air Pollutants).

45) Comment:

Avoid pushing the word required in the guidelines. Instead it is suggested that "recommendation" or "recommended" be used (WSPA, 1992a; WSPA, 1992b; WSPA 1992c; Workshop, 1992a).

Response:

We agree.

Revision:

Revise the guidelines to reflect the fact that they are just that (i.e., guidelines) and as such include suggestions and recommendations that districts may choose to incorporate into their notification requirements.

46) Comment:

Regarding information sheet C, it is suggested that the question "what is a significant health risk?" be added (WSPA, 1992a).

Response:

We agree.

Revision:

Revise Appendix C (now Appendix D) to include the question "What is a significant health risk?". The answer must be qualified in the context of the Air Toxics "Hot Spots" Program notification requirements as specified by the district. It is the level of risk or exposure identified by the district at which facilities must notify the public under the "Hot Spots" Program. The district has determined that this level of risk or exposure justifies having facilities go through the notification process. This level of risk may be considerably lower than other risks such as that associated with ambient air toxics. Furthermore, this level of risk does not necessarily mean those exposed will develop adverse health effects. Rather, for carcinogenic effects, it is expressed as a probability that an individual may get cancer from a specified exposure. For noncancer health effects, the hazard index indicates how close an exposure is to a reference point (i.e., the AEL) at or below which we do not expect adverse health effects.

47) Comment:

We need to ensure that the triangle established between the district, industry, and the media is effective (i.e., it results in clear communication)(Workshop, 1992c).

Response:

We agree. That is why the guidelines include suggestions on working with the media. In addition, it is also the reason the guidelines include specific suggestions concerning the role of the district and the facility in notification.

Revision:

No change.

48) Comment:

Will notification be based on data below the detection limit? (Workshop, 1992c).

Response:

Individual districts will specify how data below detection will be considered as part of their notification procedures. Districts may choose to determine the appropriateness of assumptions on a case-by-case basis.

Revision:

No change.

49) Comment:

State that the reported emissions upon which the health risk assessment is based are legal and within permitted limits (WSPA, 1992a; WSPA, 1992b; WSPA, 1992c; Workshop, 1992a).

Response:

Individual districts may choose to include such a statement in their notification letter. However, given the concerns over demonstrating that all emissions are legal, the CAPCOA AB 2588 Risk Assessment Committee choose to leave this provision out of the sample district letters in the guidelines.

Revision:

No change.

50) Comment:

We would not have performed the alternative risk assessment if we knew we would not be able to use it for notification purposes (Workshop, 1992a).

Response:

The district may allow the facility to discuss the results of the alternative risk assessment in the facility letter. However, it is suggested that such a discussion be brief and not undermine the notification process. A public meeting is probably a more appropriate forum for presenting this information.

Revision:

No change.

51) Comment:

Is it a legal requirement that an individual disclose, upon the sale of property, if they have received a notification letter under the "Hot Spots" Program? (Workshop, 1992b).

Response:

Our understanding is yes. However, it is best to seek legal counsel on such matters.

Revision:

No change.

52) Comment:

We are concerned that draft risk assessments are going to be used as the basis for public notification (Workshop, 1992b).

Response:

The guidelines currently recommend that district-approved risk assessments be used as basis for determining if notification is required.

Revision:

No change.

53) Comment:

The sample notification letters for chronic noncancer and acute noncancer health risk are vague and do not make a clear description of acute versus chronic adverse health effects. In addition, these letters do not explain the fact when an affected household receives more than one letter and the cumulative impact of carcinogenic and noncancer health effects of the total emissions of the area in question (McDavid, 1992; Workshop, 1992a).

Response:

The primary difference between the acute and chronic noncancer notification letter is the exposure duration. For acute effects, the assumption is that exposure takes place for at least an hour whereas for chronic effects, the exposure is for a year or longer. Both of the noncancer letters specify the adverse health effect(s) associated with exposure.

Revision:

No change.

54) Comment:

CAPCOA should initiate a study of the effectiveness of the risk communication program within several districts to establish inadequacies and recommend future amendments to the air toxics program (McDavid, 1992; Workshop, 1992a).

Response:

The AB 2588 Risk Assessment Committee has benefited from the experience gained during the BAAQMD's notification activities. The guidelines presently reflect this experience. However, after first phase facilities have been through the notification process, the CAPCOA AB 2588 Risk Assessment Committee will determine if districts need additional assistance in making adjustments based on the notification experience. If requested, the committee will consider developing additional guidance.

Revision:

No change.

REFERENCES

Chevron, 1992. July 10, 1992, letter from Roger J. Work of Chevron to Richard Corey of the Air Resources Board.

Hughes, 1992a. July 22, 1992, letter from Felipe Gregorio, Jr. of Hughes to Richard Corey of the Air Resources Board.

Hughes, 1992b. July 31, 1992, letter from Felipe Gregorio, Jr. of Hughes to Richard Corey of the Air Resources Board.

LOF, 1992. July 31, 1992, letter from John R. Keil of Libby Owens Ford to Richard Corey of the Air Resources Board.

L.A.D.A., 1992. August 5, 1992, letter from Jan Chatten-Brown of the Office of the District Attorney, County of Los Angeles, to Richard Corey of the Air Resources Board.

McWilliams, 1992. Letter from Douglas A. McWilliams to Richard Corey of the Air Resources Board.

McDavid, 1992. Written comments provided by Ruben McDavid representing the Mothers of East Los Angeles and the Office of Supervisor Gloria Molina at the June 26, 1992, public workshop on the draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines.

OEHHA, 1992. July 31, 1992, memorandum from Steven A. Book of the California Office of Environmental Health Hazard Assessment to Genevieve Shiroma of the Air Resources Board.

WSPA, 1992a. July 31, 1992 letter from Michael D. Wang of the Western States Petroleum Association to Richard Corey of the Air Resources Board.

WSPA, 1992b. Written comments presented by Frank Giles representing the Western States Petroleum Association at the June 26, 1992, public workshop on the draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines.

WSPA, 1992c. Written comments presented by Cathy Reheis representing the Western States Petroleum Association at the July 1, 1992, public workshop on the draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines.

Workshop, 1992a. Oral Comments provided June 26, 1992, workshop in Los Angeles on the draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines.

Workshop, 1992b. Oral Comments provided June 29, 1992, workshop in Sacramento on the draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines.

Workshop, 1992b. Oral Comments provided July 1, 1992, workshop in Fresno on the draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines.

California Environmental Protection Agency

State of California
Pete Wilson, *Governor*

OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT
Steven A. Book, *Interim Director*

M E M O R A N D U M

To: Genevieve Shiroma
Chief, Toxic Air Contaminant
Identification Branch
Air Resources Board

From: Steven A. Book, Ph.D.
Interim Director
Office of Environmental Health Hazard Assessment

Date: July 31, 1992

Subject: Draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines (June 1992)

The Office of Environmental Health Hazard Assessment (OEHHA) appreciates the opportunity to review and comment on the Draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines, dated June 1992.

As the lead agency for the implementation of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), OEHHA intends to propose amendments to the regulations that define what constitutes "clear and reasonable warnings" for Proposition 65 purposes. As you know, our proposal would strengthen and make more specific the minimum criteria that Proposition 65 warning messages must satisfy to be deemed "clear."

While the draft guidelines' prescribed frequency for the issuance of the AB 2588 notifications would not meet the minimum requirements for Proposition 65 warnings, the required content of the AB 2588 cancer notification letter and industry-wide notices generally appear to be consistent with the proposed elements of a Proposition 65 warning for environmental exposures.

We are concerned, however, about the potential for the letter prepared by the facility to undermine the district's notification letter. In addition, for industry-wide notifications, it may be important to limit the number of facilities identified in the notice, to specify a minimum size for the notice, and to allow certain types of facilities that have multiple, easily identifiable or commonly recognizable locations, to refer to such locations by a description rather than a street address. It also may be more helpful to recipients of such industry-wide warnings for the notices to include a description of geographic boundaries, rather than a street address.

Exposures to chemicals that are listed under Proposition 65 as reproductive toxicants are exempt from the warning requirement if the exposure produces no observable adverse effect on reproduction, assuming exposure at 1,000 times the level in question. It may be necessary to stress this

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distinction between Proposition 65 and AB 2588 in the discussion of the notification letter for non-carcinogens.

I hope you find these comments helpful. If you require further information, please let me know.

DANIEL E. LUNGREN
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August 14, 1992

Ms. Genevieve Shiroma, Chief
Toxic Air Contaminant Identification Branch
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

RE: Draft CAPCOA Public Notification Guidelines for AB2588

Dear Ms. Shiroma:

At your request, our office has reviewed the draft CAPCOA public notification guidelines for AB2588.

In general, we endorse your cautionary statements that complying with the guidelines will not necessarily satisfy the warning requirements of Proposition 65 and urging facilities to carefully examine the specific requirements of the statute.

With respect to the sample district notification letter for carcinogenic risk (Table III-1), in our view the content of the letter appears to be generally consistent with the warning requirements of Proposition 65. We do not express any opinion about the sufficiency of individual facility notification letters since there is no sample letter included in the guidelines and since we have not reviewed any specific letters prepared by facilities. Our comments also do not extend to the sample notification letters for chronic and acute noncancer health risks (Appendix E-1 and E-2), since these letters address health risks different from the noncancer risks regulated under Proposition 65 (i.e. risks of reproductive toxicity).

We very much appreciate your efforts to coordinate the notification requirements of AB2588 with Proposition 65's warning requirements, and the opportunity to comment on the proposed guidelines. Please call me if you have any additional questions.

Thank you very much.

Sincerely,

DANIEL E. LUNGREN
Attorney General

CLIFFORD RECHTSCHAFFEN
Deputy Attorney General

cc: Dr. Steven Book, OEHHA

OFFICE OF THE DISTRICT ATTORNEY
COUNTY OF LOS ANGELES
HALL OF RECORDS
320 WEST TEMPLE STREET, RM. 345
LOS ANGELES, CALIFORNIA 90012
(213) 974-5903

...NER, DISTRICT ATTORNEY
GREGORY THOMPSON, CHIEF DEPUTY DISTRICT ATTORNEY
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JAN CHATTEN-BROWN, SPECIAL ASSISTANT
TO THE DISTRICT ATTORNEY FOR
ENVIRONMENTAL/CONSUMER PROTECTION/
OCCUPATIONAL SAFETY AND HEALTH

August 5, 1992

Richard Corey
California Air Resources Board
Stationary Source Division
Toxic Air Contaminant Identification Branch
P.O. Box 2815
Sacramento, CA 95812

Dear Mr. Corey:

COMMENTS ON CAPCOA AB 2588 RISK ASSESSMENT PUBLIC NOTIFICATION GUIDELINES

We apologize that these comments are late. However, we wish to make known that the Los Angeles District Attorney's Office considers specific guidelines necessary to achieve clear and reasonable warnings under AB 2588. Facilities which emit toxic substances must have clear guidance on what constitutes a proper notice. Our experience under Proposition 65 convinces us of the importance of specificity in the guidelines. It is also in the interest of both the public and industry to achieve standardization regarding the contents of the notice, and method of delivery.

Although the draft goes a long way in assuring adequate notice, we wish to make the following comments:

1. Guidance should be given to increase the likelihood that the letter will be read and understood, and not treated as junk mail. Both the heading of the letter, and the envelope should have in large, bold faced type the words "HEALTH WARNING", or a similar phrase.

[redacted]2

We suggest including more explicit guidance for communications to non-English speaking persons who are exposed to air toxics. On page 12, item 2, we recommend that you change the words "should" and"may" to "must" or "shall.". The same change should be made on page 17, Section C, paragraph 3. We also recommend that you change the first sentence in paragraph 3 to read:

"Facility operators in multi-ethnic communities, where the operator knows or should know that more than five percent of the population speaks a language other than English, has an affirmative obligation to exercise reasonable diligence to determine the language of those exposed and provide warnings in the appropriate language."

3. Although this may be beyond the scope of the guidelines, we note that each district should be staffed adequately so that the interested public who wish to obtain additional information, including those who do not speak English, can access staff persons by means of a direct telephone call. It should not be unduly time consuming or burdensome for members of the potentially exposed public to inquire about the risks.

We hope these comments will help you in the revisions. We look forward to seeing the final guidelines.

Very truly yours,

Jan Chatten-Brown
Special Assistant to the
District Attorney

cspcos

WSPA
Western States Petroleum Association

Michael D. Wang
Manager
Operating and Environmental Issues

July 31, 1992

Mr. Richard Corey
Staff Air Pollution Specialist
California Air Resources Board
Stationary Source Division
1219 K Street
P.O. Box 2815
Sacramento, California 95812

Dear Mr. Corey:

Western States Petroleum Association (WSPA) is a trade association whose member companies are engaged in the exploration, production, refining and marketing of petroleum and petroleum products throughout California and the western United States. WSPA appreciates the opportunity to comment on the *Draft Air Toxics "Hot Spots" Program Public Notification Guidelines*. WSPA retained Dr. Peter Sandman, a well known consultant, researcher, and trainer in air toxics risk communication, to assist in developing comments regarding the draft guidelines. We have included some of his thoughts in our letter.

I. Avoid Using the Word "Required" for CAPCOA Recommendations

WSPA believes that the use of the word "required" for CAPCOA recommendations is confusing. The Districts should have a clear understanding of which tasks listed in the Guidelines are required by the Act, and which tasks are recommended by CAPCOA. This view is also echoed by Mr. Sandman:

> "The CAPCOA guidelines, as revised, will then constitute a resource for the state's ten individual Air Pollution Control Districts, which may use them, adapt them, or ignore them. The final guidelines adapted by each District, in turn, will include a mix of requirements binding on the facilities to which they apply and recommendations not binding on those facilities,..., Obviously, CAPCOA can require nothing; only the Districts can impose requirements."

Some examples in the draft where WSPA believes the word "required" is incorrectly used are presented below.

505 No. Brand Blvd., Suite 1400 • Glendale, California 91203 • (818) 545-4105

In the second paragraph on pg 18, the guidelines state: "The facility operator is required to prepare and enclose their own letter as part of the notification package." This is not necessarily legally required if an Air District decides to adopt different procedures.

In the fourth paragraph on pg 18, the guidelines state, "...the only other requirement concerning the facility cover letter is that it identify a contact and phone number." Although we believe this is a good suggestion we do not believe this is a legal requirement under AB2588. Therefore, we suggest that the sentence be reworded to strike the word "requirement".

Also, in the second paragraph on pg 19, we suggest the words "requirement" and "required" be changed to "recommendation" and "recommended".

II. Do Not Make the Public Meetings Mandatory

The need for a public meeting to aid in fulfilling the notification requirement should be the decision of the affected facility. The guidelines should recommend that the Districts recommend meetings, not require them.

"As now proposed, the guidelines would have the District decide ... Whether or not to require a meeting. If one is required, its format (from announcements to agenda) is subject to District approval. The same arguments I made with respect to notification letters and materials apply to the decision of whether a meeting is needed and, if so, what sort of meeting will work best. This decision is,..., best left to the facility.,..., Prescribing the forum may hamstring facilities that want to try something innovative without improving the performance of less adventuresome facilities."

III. Specific Suggestions for Notification Letter Content

WSPA has some additional suggestions regarding the content of the notification letters. These suggestions are echoed by Dr. Sandman.

Make the Districts' Notification Letters More User Friendly. "Most important, I think, is to make the tone of the letter less bureaucratic. The current tone isn't frightening, I think, so much as it is impersonal – almost as if it came from

the Internal Revenue Service. But given that the topic is toxic risk and cancer, an impersonal letter from the government is in some ways more frightening (at least more off-putting) than an explicitly alarming letter might be. I expect the draft would provoke a nervous 'what the hell is this' response from many recipients. ...The people who drafted the letter care deeply, but perhaps in an effort to sound neutral, they ended up sounding unsympathetic.... In this regard, I like the sample letter (for Level 2 and Level 3 facilities) provided by the draft Bay Area Air Quality Management District Guidelines better... its tone is,..., more personal then the tone of the CAPCOA draft."

State the Uncertainty of the Risk Assessment. "Risk assessment is uncertain. In some ways, AB-2588 responds to uncertainty with conservativeness – for example, the assumption that people occupy the most exposed location fulltime for 70 years. The resulting risk estimate is thus intentionally higher than the likeliest answer, an "upper bound" estimate. ... Facilities have also had an opportunity to review the risk assessments and find any errors that overrepresented the risk; errors that underrepresented the risk are likelier to have gone undetected... Clarify that the risk estimate is <u>intentionally</u> a high-side (conservative) estimate – for example by assuming that everyone lives for 70 years at the highest-risk offsite location. Because risk assessment is an uncertain science, it is wise to take steps to make sure the risk is overestimated rather than underestimated."

Include Comparison to Other Cancer Risk. "For further context, I would also include the total cancer risk of 1 in 4 (250,000 in a million)." Regarding the draft CAPCOA Fact Sheet, Dr. Sandman recommends: "On pp. C1-C2, I would add two questions (and answers) to the draft Fact Sheet on the Air Toxics "Hot Spots" Program: What is a 'significant' health risk? All facilities with a cancer risk of 10-in-a-million or more must send notification letters. The highest number for any facility in the District was [whatever]. These are fairly small numbers compared to the risk from smoking, diet, or automobiles...". In addition, WSPA recommends a comparison to ambient air levels in the regions.

Include Graphs or Bar Charts. "If feasible, ... add a graphic – a bar chart or pie chart that compares the three risks: total cancer risk, total cancer risk due to air toxics,..., and total cancer risk due to the neighborhood facility. I would not, however, include a map with isopleths as proposed by the Bay Area Air Quality Management District."

State that the Emissions are Legal. "... add the information that the emissions being reported are legal."

IV. Communicate with the Press

Section II.3 (page 7) acknowledges that communicating with the press is "desirable". WSPA believes that the press should receive all the information and education needed to clearly help the public understand the nature and extent of any risk as well as the intent of the public notification process. Any details left out of the press releases may cause confusion in those readers who do not receive notification letters. WSPA recommends that the District's press releases discussing the HRA results be reviewed by the ad hoc public notification committee and should include the same kind of information regarding putting risk into perspective that the actual notices contain.

V. Mention the Disadvantages of the Single Level Approach

WSPA prefers the tiered approach over the single-level approach. And, we believe most Air Districts will conclude likewise if they are fully informed in the guidelines of the pros and cons of each approach. The tiered approach will allow facilities to more accurately "frame" the notification program to the potential risk posed. In this regard, Dr. Sandman states" I would, however, do more in the notification package to distinguish facilities with risks in the 10-in-a-million range from facilities with risks of 100-in-a-million or more". The guidelines should mention the possibility that the single-level approach might mislead the public with the idea that the air cancer problem is a "threshold" situation, which is not necessarily the case.

VI. Free the Facility Notification Role from District Control

WSPA believes that the facilities required to notify, should be allowed to develop their own notification letters. This opinion is reflected in the comments WSPA received from Dr. Sandman:

> "A much more difficult question is whether the District should require advance approval of the facility's notification letter or other facility-produced materials included in the notification package". Dr. Sandman believes that it should not, for several reasons:

- "Requiring advance approval will discourage facilities from developing substantial explanatory materials. A simple cover letter is easily approved, while a long letter or a fat package of information sheets is likely to require negotiations. Facility managements will tend to shy away from such negotiations. Yet it is desirable for facilities to develop their own more thorough explanations of the risk.

- Requiring advance approval will discourage innovation, experimentation, and responsiveness to local conditions. Different facility managements are likely to have different judgments about what sorts of information should be provided to local citizens. Allowing them to act on their judgments increases the likelihood that they can adapt to local conditions, and provides the facility, the company, the District, and the state with useful feedback on how communities respond to different approaches.

- Requiring advance approval will tie up District time, and may delay notification. For Districts with large numbers of affected facilities, reviewing facility communication packages and negotiating the content of those deemed problematic can be a major job.

- I can imagine a deadlock where a District refuses to approve the letter that facility management wants to send, while facility management refuses to sign the letter the District wants to approve,..., But it does seem to me that the facility, like the District, should be free to say what it chooses to its neighbors.

- Most importantly,..., requiring advance approval will unnecessarily commit the stature of the District to the communication efforts of the facility. Paradoxically, this will weaken the accountability of facility management. If facility notification materials are controlled by the District, facility managers can legitimately attribute any failure to the District: 'We did what they told us to do.' Community members and advocacy groups can legitimately ask why the District failed to force the facility to talk about X or failed to make it take out that offensive paragraph about Y. ... such an outcome does not serve the real interests of the facility, the District, or the community. It seems wiser to preserve the District's independent stature and credibility."

WSPA agrees with Dr. Sandman's beliefs regarding the Districts' forcing the facilities to sign a district approved letter. The Districts should, however, require the facilities to send a copy of the notification letter to them. This would allow the Districts to track facility communication and to express disagreement, if necessary.

VII. Do Not Trigger Notification for Nuisance Standards

On pg 11, the guidelines state that OEHHA is currently identifying additional substances, besides lead, for which a more stringent HI trigger might be appropriate. This could cause notification to individuals not exposed to a health risk. As an example, the use of a Hazard Index of five (5) as a threshold for non-cancer health risk notification in oilfield production areas where hydrogen sulfide is present may result in widespread notification on the basis of an odor annoyance standard, rather than a true health hazard. Thus, WSPA is asking for specifics regarding the substances which CAPCOA is mentioning. WSPA believes that OEHHA should not make those decisions in a closed room, but should open up that process to allow public discussion. We request additional public workshops to discuss OEHHA's upcoming proposed changes.

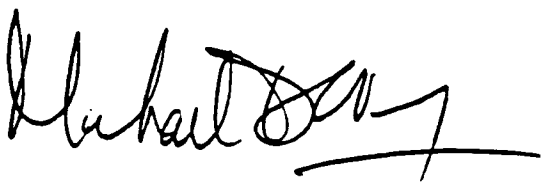
VIII. Notification Requirements for Facilities That Have Reduced Their Emissions

CAPCOA has avoided recommending whether notification should be based strictly on conditions existing in 1989, or whether reductions in emissions made and documented since that time be given consideration in the notification process. Many Districts have not decided or announced whether they will require notification to individuals no longer exposed at levels above the "significant risk" level. In the event that facilities which have permanently reduced their health risk below the notification requirement level are still required to notify, the language of the sample letter in Table III-1 (page 13) is inappropriate.

For those cases, the Districts' letters should discuss exposure and risk in the past tense, and include the current level of risk and a summary of the steps taken by the facility to reduce the emissions. This should be located either in the second or third paragraph. If this is not done, the letter may lead residents to believe that they are still being exposed to a significant health risk.

Again, thank you for the opportunity to comment on the CAPCOA Notification Guidelines for the AB2588 Air Toxics "Hot Spots" Notification requirements. If you have any questions regarding the above comments, please feel free to contact me at (818) 543-5349 or Melinda Luthin of my staff at (818) 543-5333.

Yours truly,



MW/bc

HUGHES
Subsidiary of GM Hughes Electronics

July 31, 1992

Richard Corey
California Air Resources Board
Stationary Source Division
Toxic Air Contaminant Identification Branch
P.O. Box 2815
Sacramento, CA 95812

Dear Mr. Corey:

The AB2588 Draft Public Notification Guidelines that was published in June 1992 is flexible in all areas except in the notification media. It gives facilities only two ways to communicate health risk to the public: first by letters, and second, by public meetings. Public meetings are only suggested as follow-ups to letters.

We are proposing that newspapers be included as an option in the notification media. Notifying by newspapers can be much less expensive than notifying by letters. This method is also consistent with the notification method available in Proposition 65. A notification that meets the requirements of both Proposition 65 and AB2588 can be developed and used by affected facilities. This will also avoid duplicate notification if a chemical is in both the Proposition 65 and AB2588 lists.

Enclosed is a copy of the "Proposed South Coast Air Quality Management District AB2588 Public Notification Guidelines" submitted to SCAQMD by CAEA. CAEA (California Aerospace Environmental Association) is a group of aerospace and defense industries located throughout southern California. Please review these proposed guidelines and, if appropriate, merge them with your Draft Public Notification Guidelines.

If you wish to discuss this comments, please call me at (310)568-6072.

Sincerely,

Felipe Gregorio, Jr., REA
Sr. Environmental Specialist

Corporate Offices: 7200 Hughes Terrace
PO Box 45066, Los Angeles CA 90045-0066
(213) 568-7200

PROPOSED SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AB 2588 PUBLIC NOTIFICATION GUIDELINES

PREPARED BY THE
CALIFORNIA AEROSPACE ENVIRONMENTAL ASSOCIATION
AB 2588 WORKING GROUP

OCTOBER 31, 1991

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PROPOSED SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
AB 2588 PUBLIC NOTIFICATION GUIDELINES

SECTION I. INTRODUCTION

On September 27, 1987, the Governor approved Assembly Bill AB 2588: Air Toxics "Hot Spots" Information and Assessment Act of 1987. This bill required the state board, by March 1, 1988, to compile a list of substances which present a chronic or acute threat to public health when present in the ambient air. It requires the operator of specified facilities which emit substances on the list to prepare and submit to the district, in accordance with a designated schedule, a proposed comprehensive emissions inventory plan in accordance with rules and regulations adopted by the state board. The operator of the facility, within 180 days after approval of the plan, shall implement the plan and report the results to the District. The District, after reviewing the report, shall notify the State Department of Health Services, the Department of Industrial Relations, and the city or county health department of its findings and determinations. Within 90 days of completion of the review of emissions inventory data, the District shall prioritize and categorize facilities for purposes of health risk assessment into high, intermediate and low priority categories. Operators of every high priority category facility shall prepare and submit to the District a health risk assessment within 180 days of categorization. Upon approval of the health risk assessment, the operator of the facility shall provide notice to all exposed persons regarding the results of the health risk assessments if, in judgement of the District, the health risk assessment indicates that there is a significant health risk associated with emissions from the facility.

SECTION II. CHANNEL FOR NOTIFICATION

A. The intent of AB 2588 notification as codified in the Health & Safety Codes section 44362, is to notify all exposed persons regarding the health risk from routine exposure to certain chemicals, if in the judgement of the district, a significant risk exists.

B. General

Independent of the channel for notification, all notification shall meet the following general requirements:

1. The notification shall be clear and reasonable.

2. The notification may be accompanied by any documents required to comply with the warning requirements pursuant to Prop 65.

3. If in the judgement of the District, there is significant risk associated with the emissions from the facility, the District shall notify the facility operator in writing that he/she is required to notify the exposed persons of the risk associated with the facility emissions.

4. The facility operator, within 90 days of the receipt of the notice, shall submit to the district a notification plan for approval. The notification plan shall contain the actual notification message that will be conveyed to the exposed individuals.

5. The facility operator, within 90 days of notification plan approval, shall implement the notification plan.

C. Notification Requirements: The method employed to channel the notification shall be determined by the prioritized risk levels listed in Table I.

1. Public Medium:

a. Facilities included in Tier I (SEE TABLE I) shall be established as a low priority and are required to employ a public medium to inform the public affected by the health risk associated with the facility's toxic air emissions.

b. The public medium, i.e., newspapers, television, radio, must contain at a minimum:

1) Facility name
2) Facility address
3) Chemical/s of concern
4) Risk level/s
5) Zone/s of impact

c. Public Media shall be updated and reissued when the toxic air emissions significantly changes as measured by the update of the emission inventory report required by HSC 44344 or as measured by the update performed before the two year update cycle.

d. The District shall conduct seminars for the media to explain all aspects of AB 2588 process.

2. Notification Letters

a. Facilities included in Tier II and Tier III (SEE TABLE I) shall be established as a moderate and high priority risk, respectively, and are required to send notification letters to the affected public. (SEE EXAMPLE LETTERS IN APPENDIX I)

b. Notification letters should contain at a minimum the following items:

(1) an SCAQMD letter containing:

(a) The intent and requirements of AB 2588;
(b) the implementation process;
(c) the notification process;
(d) a statement that the results of the health risk assessment are provided in an attached letter reviewed and approved by the District;
(e) a statement that the health risk assessment was performed according to the guidelines approved by the Department of Health Services;
(f) a statement that the attached letter is not a result of negligence or violation of rules or regulation;
(g) an SCAQMD "information line" telephone number for additional information.

(2) a facility letter containing:

(a) The basis used in determining the health risk;

(b) the results of the health risk assessments;
(c) results of health risk assessments based on an alternative method;
(d) a perspective of the risk assessment;
(e) a statement of compliance with SCAQMD rules and regulations;and
(f) an explanation of what is being done to minimize the risk.

d. Notification letters shall be updated and reissued when the toxic air emissions significantly changes as measured by updated emission inventory report required by HSC 44344.

e. Notification letters shall be mailed to residents within the area of impact. If a person works and lives in the affected area, he/she shall receive a notification at the place of residence.

g. Economic hardship may be demonstrated for small companies when costs of mailing notification letters exceed $ 5,000. Other listed notification methods may be used for companies demonstrating economic hardship.

3. Community Meetings

a. Facilities included in Tier III (SEE TABLE I) shall be established as a high risk priority and are required to send notification letters and host a community meeting.

b. At least one community meeting shall be held to educate the public on health risk assessment results from the subject facility.

c. Community meetings will be held at a time and location which is convenient for the people living in the area (eg. evenings, weekends).

d. A representative of the South Coast Air Quality Management District (SCAQMD) shall participate in the community meeting.

e. Subsequent public meetings may be held every time there is a significant change in the emissions of the chemical. Significant change occurs when a facility is reclassified into a different tier resulting from an update in emissions inventory and/or risk assessment.

TABLE I

PROPOSED SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
NOTIFICATION GUIDELINE SUMMARY

DEGREE OF IMPACT	RESIDENTIAL RISK	PUBLIC NOTICE
Tier I	100 to 250 in million	Public Media or Letters
Tier II	251 to 500 in a million	Letters
Tier III	Above 500 in a million	Letters and Meetings

SECTION III. DISCUSSIONS

A. A health risk threshold of 1×10^{-4} must be used as the notification criteria for carcinogens. This is due to the ultra-conservative nature of the assessment process, which employs the concept of "Maximum Exposed Individual" (MEI). Using 1×10^{-4} as the threshold for notification will provide a better estimate of risk. This threshold must be used until the "probabilistic" approach has been fully evaluated and implemented. The "probabilistic" approach will reduce the non- real or ultra-conservative nature of the risk assessment since it employs the statistical distribution of the different parameters among the population and not only at the extreme conditions.

B. Health risk assessments based on the most accurate and most current data must be used in the evaluation of the notification requirement. Industries must make sure that their risk assessments are based on current and accurate data. Risk based on outdated data can be underestimated or overestimated. Risk must be real. Otherwise false warning or no warning will be conveyed to the public.

C. Multi-tiered levels of notification must be used. Industries generating low levels of health risk must not be required to go through the same extensive notification process as industries generating high health risks. Requirements must be proportional to the level of the risk. The same levels of notification will create exaggerations and disentization of the public. Multi-level notification will help focus on the real issues. The intent of AB 2588 is to prioritized facilities according to the levels of health risks associated with their emissions.

D. The facility operator should have the option to write his/her notification.

1. The facility is the best qualified to address all the issues in the risk assessment because of its familiarity with its operations. Facility can talk knowledgeably about its current operations and the projects its company is planning to do to reduce the risk associated with the their operations.

2. The residents who will receive the notifications are neighbors to the facility operator and they should be in a dialogue regarding their common problems. A third person delivering the message is not the best way to communicate. Messages conveyed through a third party can

be somewhat altered.

The facility operator and the citizens of the area share a common environment and they should work together to keep it harmonious and safe.

E. The District should review and approve the facility's notification letter. This will ensure that the facility operator comply with the notification guideline. This will also give credibility to the notification letter.

F. The District should provide a guideline for what would constitute an acceptable notification. This guideline should be developed through public workshops. The guideline should have a minimum requirement for what an acceptable notification should be.

G. The channel for notification should be efficient, economically practical, timely, and able to reach a large population. It should not overburden the postal system. It should not generate an unnecessary anxiety among the recipients of the notification.

H. Notifications should be given to residents only and not to employees in the affected areas. The health risk assessment guidelines are based on residential conditions and not on industrial or commercial conditions, i.e., residential conditions meaning 70 years of lifetime and 24 hours a day presence of the individual in the affected area.

APPENDIX I

EXAMPLE LETTER

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Dear Resident:

The Air Toxic Information and Assessment Act of 1987 (AB2588; Health and Safety Code 44300 et seq.) requires facility operators in the South Coast Air Quality Management District (SCAQMD) to perform Health Risk Assessments to evaluate the potential health impacts of their routine operation. The purpose of this letter is to fulfill the final step of a four step AB2588 implementation process:

Step 1: EMISSION INVENTORIES

Facilities prepared a report quantifying their emissions of air pollutants.

Step 2: AIR DISTRICTS FACILITY PRIORITIZATION

Facilities were prioritized by the SCAQMD staff based on the amount and toxicity of their emissions.

Step 3: FACILITIES AND AGENCIES ASSESS HEALTH RISK

Facilities prioritized as "high" (step 2) prepared comprehensive health risk assessments which evaluated the probability of adverse health effects due to exposure from facility emissions.

Step 4: FACILITIES AND AIR DISTRICTS PROVIDE INFORMATION ON RISKS

Facilities and air districts will provide information to the public based on the results of the health risk assessments.

The attached letter is from a facility that was required to prepare a health risk assessment. The letter explains in detail the results of the health risk assessment, what the results mean and what the facility is doing to eliminate/minimize any health risks to you and your family.

The notification letter prepared by this facility has been reviewed and approved by the SCAQMD for AB2588 public notification purposes. Information contained in the letter was subject to compliance with specific notification guidelines been developed by the SCAQMD.

If you have any question regarding the information provided, please call the SCAQMD AB 2588 "Information Line" at (714)-------

EXAMPLE LETTER

FACILITY LETTER

Dear Resident,

The Air Toxics Information and Assessment Act (AB 2588) enacted by the California legislature in 1987, requires industry to report emissions from individual facilities and then inform the public about potential health risks. The purpose of this letter is to inform our neighbors of the results of our AB 2588 Health Risk Assessment and what we are currently doing to minimize any potential health risk to individuals in our community.

_____ has prepared a Health risk assessment for its _____ facility at (_____Address_____) using California Air Pollution Control Association (CAPCOA) Risk Assessment Guidelines. The guidelines were adopted by the SCAQMD to implement AB 2588 risk assessment requirements. The CAPCOA Guidelines Risk Assessment Manual states that,

> "There is a great deal of uncertainty associated with the process of risk assessment. The assumptions used in the CAPCOA guidelines were designed to err on the side of health protection in order to avoid under underestimation of risk to the public".

The CAPCOA guidelines also state:,

> "Uncertainty is difficult to quantify, and, in most cases, the quantification of uncertainty itself is uncertain. As such, the risk levels generated in a risk assessment are useful as a yard stick to compare one source with another and prioritorize concerns. Risk estimates generated by a risk assessment should not be construed as the expected rates of disease in the exposed population but are merely estimates of risk, based on current knowledged and a large number of assumption".

The results of the risk assessment prepared for this facility showed that the health risk calculated was .00?? percent of the health risk associated with background risk levels in the south coast basin (south coast basin - 798 X 10-6, _____facility - ??? X 10-6). This means.....(Group discussion).....

The HRA's were calculated using 1989 emissions data. Since 1989, _____?Company?_____ has reduce their hazardous air pollution emission by ---% . Our facility is currently.....(state all of your great programs relative to emission reductions)....

Our future plans include.....(pollution elimination/minimization commitments).

You may review the Risk Assessment report at the offices of the SCAQMD by making an appointment with the _____ section.

If you have any questions or require further information please call our AB2588 "hot line" (213)------- and/or the SCAQMD AB2588 "Information Line" (---)-------.

AB2588 IMPLEMENTATION COSTS

ACTUAL AEROSPACE INDUSTRY EXAMPLES (US DOLLARS)

	COMPANY A	COMPANY B	COMPANY C	COMPANY D	COMPANY E
PLANT SITES	5	4	3	2	4
EMISSION INVENTORY PLAN	62,672	11,000	91,000	62,000	0
EMISSION INVENTORY REPORT	258,332	195,000	298,000	163,000	63,000
HEALTH RISK ASSESSMENT	332,500	189,000	175,000	110,000	311,000
PUBLIC NOTIFICATION LETTERS (U.S. POSTAL STAMPS PER PLANT)	11,000	10,100	XXXXXX	60,000	0
COMMUNICATION PLAN	200,000	100,000	XXXXXX	17,000	0
OTHERS	126,528	30,000	-	21,000	-
TOTAL	991,032	677,000	739,000	433,000	374,000

NOTE: COSTS DO NOT INCLUDE COSTS FOR INTERNAL LABOR

HUGHES

Subsidiary of GM Hughes Electronics

July 22, 1992

Richard Corey
California Air Resources Board
Stationary Source Division
Toxic Air Contaminant Identification Branch
P.O. Box 2815
Sacramento, CA 95812

Dear Mr. Corey:

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If you wish to discuss this issue with me, please call me at (310)568-6072.

Sincerely,

Felipe Gregorio, Jr., REA
Sr. Environmental Specialist

Corporate Offices: 7200 Hughes Terrace
PO Box 80028, Los Angeles CA 90080-0028
(310) 568-7200

Libbey Owens Ford

A member of the Pilkington Group

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Toledo, Ohio 43697-0799
Tel. 419-247-3731
FAX 419-247-3821 or 3984

July 31, 1992

Mr. Richard Corey
California Environmental Protection Agency
Stationary Source Division
Air Resources Board
Toxic Air Contaminant Identification Branch
2020 L Street
Sacramento, CA 95814

Dear Mr. Corey:

By this letter, the Libbey-Owens-Ford Co. (LOF) is hereby submitting written comments to the Draft CAPCOA Air Toxics "Hot Spots" Program Public Notification Guidelines, for consideration by the California Air Pollution Control Officers Association (CAPCOA) AB 2588 Risk Assessment Committee. The attached written comments supplement oral comments presented by Ms. Jeanne Zolezzi of Neumiller and Beardslee, LOF's outside legal counsel, at the CAPCOA AB 2588 public workshop, held in Fresno on July 1, 1992.

LOF appreciates CAPCOA affording LOF the opportunity to assist in the development of the AB 2588 Public Notification Guidelines, and requests that its comments be reviewed by the Risk Assessment Committee for consideration in the final AB 2588 Public Notification Guidelines. Also, if the Risk Assessment Committee intends to respond to LOF's written comments, please send all written comments to my attention at the address stated on the letterhead, or feel free to call me at (419) 247-3715. Thank you for your cooperation.

Sincerely,

John R. Keil, Manager
Environmental Affairs

Attachments

PILKINGTON

cc: Ms. Genevieve A. Shiroma, Chief
California Environmental Protection Agency
Stationary Source Division
Air Resources Board
Toxic Air Contaminant Identification Branch
2020 L Street
Sacramento, CA 95814

WRITTEN COMMENTS BY LIBBEY-OWENS-FORD
TO THE DRAFT CAPCOA AIR TOXICS "HOT SPOTS" PROGRAM
PUBLIC NOTIFICATION GUIDELINES PREPARED BY
THE AB 2588 RISK ASSESSMENT COMMITTEE OF THE
CALIFORNIA AIR POLLUTION CONTROL OFFICERS ASSOCIATION

I. INTRODUCTION

These written comments supplement oral comments made at a public workshop held on July 1, 1992 in Fresno by Jeanne Zolezzi of Neumiller & Beardslee, counsel to Libbey-Owens-Ford (LOF).

LOF operates a float glass manufacturing plant in Lathrop, California. The plant employs approximately 500 people. Currently the plant emits legally permissible amounts of hexavalent chromium generated from natural decomposition of the refractory brick used in the glass furnace. Normal maintenance of float glass furnaces requires rebricking every 10-12 years. LOF plans to replace the worn brick with non-chromium containing bricks during its routine maintenance in 1993. This rebricking will substantially reduce or eliminate hexavalent chromium emissions from the Lathrop, California facility.

In order to place our comments in context, LOF has identified the principal goals of the air toxics hot spot legislation and the public notification as set forth in the draft guidelines. The primary goal of this legislation is "to inform the public of their exposure to toxic chemicals routinely released to the air from facilities and their potential health risks associated with those exposures" and to direct facility activities toward "reducing [or eliminating] the public's exposure to air toxics." (Emphasis added.) " ... If a notice is required, the notice shall include only information concerning significant health risks attributable to a specific facility for which the notice is required." Thus, LOF's comments pertain to when notification is required and how notice should be provided to the public.

II. EXECUTIVE SUMMARY

The air toxics hot spots legislation requires notification to the affected public by facilities which release significant levels of toxics to the air. Health risk assessments prepared by facilities determine whether air emissions are significant and assume an exposure risk over a 70 year life span. Temporary emissions which will be substantially reduced or eliminated within a short period of time are not significant when compared to a seventy year exposure. Thus, so long as an applicant files a permit application to reduce air emissions below the threshold for significance under threat of enforcement and has fully complied, it is lawful to allow a waiver of the public

notification provisions because such emissions are temporary and insignificant.

LOF believes the substance of the notification should correlate to the amount of risk imposed upon the affected public from toxic air emissions. Incorporated within the process should be a cost benefit analysis. Implementation of public notification should consider impacts upon industry as well as the practical results and effect of notification, especially where emissions impacts are determined to be temporary and short term in nature.

LOF recommends Level 1 notification to be made by newspaper. (The Bay Area Air Quality Management District (BAAQMD) public notification procedures implement multilevel risk characterization ranging from Level 0 to Level 3. Level 1 facilities are those which have a carcinogenic risk of 10 to 100 in 1,000,000. The draft guidelines concur with this quantification of a Level 1 risk.) Individual notification sent at bulk rate may be discarded unread whereas newspapers are more likely to inform. Newspaper notification also has the added benefit of reaching more than one "English as a second language" population. When individual notification is appropriate, LOF recommends adoption of the BAAQMD letter notification format. Unlike the proposed CAPCOA letter format, the BAAQMD letter format is different for each level of risk and allows the public to distinguish between varying levels of actual risk, thereby avoiding unnecessary public alarm.

III. WAIVER OF PUBLIC NOTIFICATION IS LEGALLY PERMISSIBLE UNDER LIMITED CIRCUMSTANCES.

The ultimate goal of the air toxics hot spots law (also known as AB 2588) is to eliminate or significantly reduce the public's exposure to emissions of air toxics, rather than merely to warn of such an exposure. Given this goal, the guidelines should provide industry with an opportunity to avoid the notification procedures, if a substantial commitment is made to reduce to a level of insignificance, or eliminate, an exposure within a specified time period. LOF believes such a provision is legally permissible and falls well within the legislative intent of the air toxics hot spots statutes.

LOF's belief is based on, among other factors, the actions of the BAAQMD which has adopted and implemented such a provision in its regulations with no legal challenge:

> "a facility's impact will be reclassified if the operator submits a permit application which will result in a reduction of emissions sufficient to reduce the risk below the relevant criterion. The proposed reduction must occur with two years of the date of submittal of the authority to construct. If the proposed reductions are not achieved on schedule, the permit application will be considered a

"knowingly submitted false statement or representation"... (Emphasis added.)

LOF recommends such an alternative be included in CAPCOA's final guidelines. According to a BAAQMD staff member, thirty to forty facilities were classified as Level 1 and above risks. (The BAAQMD public notification procedures implement multi-level risk characterization ranging from Level 0 to Level 3. (See Exhibit "A", page H-1 of the draft guidelines). Level 1 facilities are those which have a carcinogenic risk of 10 to 100 in 1,000,000.) Of that group approximately 30-40% of those facilities chose to file permit applications with the BAAQMD and to undertake actions voluntarily to reduce or eliminate their emissions in order to avoid public notification. In particular the following types of facilities applied and complied: dry cleaners, a hospital which shut down its incinerator, a naval air station and chrome plating companies. All of the facilities which had applied, did, in fact, reduce their emissions below the level of significance, thereby achieving the ultimate goal of AB 2588.

The Legislature has recognized the value of providing such an incentive to industry to reduce its emissions. The Health and Safety Code requires industry to provide notice when an emission source presents a possible exposure to toxic air contaminants at nearby schools. Health and Safety Code section 42301.6(g) provides:

> [t]he notice requirements of this section shall not apply if the air control officer determines that the application to construct or modify a source will result in the reduction or equivalent amount of air contaminants...

Not only is such incentive valuable to industry, for the reasons stated, LOF believes it is also fully within the realm of lawful and proper application of laws regulating air emissions. An opportunity for industry to voluntarily reduce its air toxics emissions rather than making public notification creates a window in time when industry is rewarded for being a "good actor". Creation of this additional procedural step within the public notification guidelines will provide substantial incentive for facility operators to avoid the cost of public notification as well as the potential media notoriety and public "ill will." We believe inclusion of such a provision in the final public notification guidelines is legally permissible and to the benefit of all concerned.

IV. TEMPORARY EXPOSURE TO AN AIR TOXIC MAY NOT BE SIGNIFICANT ENOUGH TO JUSTIFY PUBLIC NOTIFICATION.

The proposed level of significance triggering public notification should hinge upon a routine continuing exposure.

Public notification for routine exposure is appropriate, but a temporary exposure may not be significant and may not meet the statutory requirement for public notification. Health risk assessments prepared pursuant to this legislation assume that an exposure will occur during a 24-hour day period over a 70 year life span. As previously mentioned, in the case of LOF, the emissions at issue will only continue for a short period of time after the anticipated date of public notification.

If air toxics will be reduced below the level of significance by industry in the near future and represent an exposure period less than that used in calculating the risk, a notification will unnecessarily alarm members of the public with information that will inaccurately convey a risk that will be eliminated in the short term. The BAAQMD public notification provisions define different levels of risk ranging from Level 0 to Level 3. (See Exhibit "A", page H-1 of the draft guidelines). However, within the BAAQMD guidelines, provision has been made to waive public notification requirements when emissions are temporary. Specifically, "A facility's impact will be reclassified if the operator submits a permit application which will result in a reduction of emissions sufficient to reduce the risk below the relevant criterion." (See Exhibit "B", page H-11 of the draft guidelines (emphasis added).) Thus, public notification was avoided when a BAAQMD facility was reclassified below the Level 1 criterion.

Utilization of Authority to Construct applications would weed out temporary insignificant emissions. If a permit must be fully implemented within two years of the application submittal date, the emissions will not be significant when compared to the seventy year period assumed in the health risk assessments. Such an application process will assist districts with identifying the true long term significant exposures of which the public should be informed. Thus, LOF is requesting that CAPCOA consider the length of actual exposure and waiver of public notification for actions taken pursuant to a permit within a period of time to reduce public exposure.

V. THE EXTENT OF PUBLIC NOTIFICATION SHOULD CORRELATE TO THE SIGNIFICANCE OF THE HEALTH RISK.

For those sources which may represent a long term ongoing significant risk to the public, a balance must be struck between providing sufficient information of a significant health risk and unduly alarming the public. It is impossible to adequately summarize a complex risk assessment study in a one-page notification letter. Consequently, LOF recommends the BAAQMD short-form letter format be adopted by CAPCOA for a Level 1 notification. (See Exhibit "C", page H-19 of the draft guidelines). The distinction between the BAAQMD notification format and the CAPCOA proposed notification format in the guidelines is significant. The BAAQMD letter format simply identifies the source of the carcinogenic risk without confusing

the information with cumbersome statistics and comparisons. LOF believes strongly that explaining the source of the health risk, providing an opportunity for a public meeting as well as a public review of the health risk assessment document are adequate to inform the public of the health risk to which it is exposed in a straightforward manner.

Because LOF believes the short letter format as prepared by the BAAQMD is appropriate for a Level 1 notification, LOF also believes that multilevel notification is appropriate. Multilevel notification results in information being disseminated commensurate to the amount of the risk posed. As the potential risk becomes more substantial, the notification should be more detailed and frequent. Equally important is how the information is conveyed.

VI. METHODS FOR CONVEYING INFORMATION TO THE PUBLIC SHOULD BE PRACTICAL.

While LOF agrees that the affected population exposed to a significant risk should receive notification, some form of cost-benefit analysis for how notification is provided should be incorporated in the guidelines. The substantial financial burden placed upon industry for identifying, tabulating and mailing to tens of thousands of residences and businesses, along with duplication, and preparation of notices is anticipated to be excessive and not justified by the benefit incurred. In fact, individual notification may be less effective than contemplated. Most unsolicited bulk mailings are discarded by recipients who are barraged on a daily basis with junk mail. Thus, individual mailing will not achieve the desired result of informing a greater portion of the public without the cost being excessive.

It is a time honored tradition to post legal notices such as public agency meetings and notices of levying as well as other informative notices in the local newspapers. In addition, newspaper notifications may actually be read by members of the public who chose to be informed, as opposed to unsolicited, and ultimately discarded, mailings.

Also, newspaper notification would ease compliance with the secondary language requirement: notices in appropriate languages could be placed in appropriate language newspapers. A two sided (English and one other language) notification is not practical in multi-cultural California. In the population which has been identified for LOF's potential notification, there are in excess of 60 languages in use. Translation costs alone will be excessive. LOF recommends that the secondary language notification requirement be limited to a set minimum percentage of the overall affected population.

VII. FLEXIBLE GUIDELINES CAN ACHIEVE GOALS FOR BOTH THE PUBLIC AND INDUSTRY.

It is estimated California needs 250,000 new jobs per year to accommodate its population growth. However, in 1991 330,000 jobs were lost due to business failures, layoffs, and businesses leaving California. (2 BNA Cal.Env.Rptr., no.13 at 265. Exhibit "D".) Peter Ueberroth's Council on Competitiveness (Council) committee report, California's Jobs and Future, identifies six principal reasons jobs are lost in California. Two of those reasons were: "Manufacturing is being squeezed out by rigid and excessive regulation," and, "Many existing businesses are taking their expansions to another state." (Page 2, Exhibit "E"). The Council looks forward at how to resolve California's problems. Among other things, the report states, "The goal of the Council is not to eliminate regulation but to refine regulation, to maintain and enhance its positive effects while eliminating the burdens." (Page 31 (emphasis added) See Exhibit "F"). A concomitant effort between government and industry should be made to implement the public notification provisions in a reasonable manner.

The substance of our comments accommodate industries' interests. We recommend refining application of this law to provide incentives to avoid public notification while at the same time providing benefits to the public by reducing its exposure to health risks from air toxic emissions. Implementation of our comments will produce a "win-win" situation. Incorporating the Authority to Construct permit option would create a win situation for industry to avoid the public notification. The public will win by having a healthier environment. Moreover, the cost of newspaper notifications would adequately inform large percentage of the public without rigid or an excessive application of the law. Implementation of our recommendations will provide the flexibility and incentives necessary to retain or attract businesses in California.

The incentives for industry as set forth in the BAAQMD guidelines clearly has produced overall beneficial results for both industry and the public by reducing the air toxic emissions. Adoption and implementation of our recommendations to the public notification guidelines will provide the requisite incentive, flexibility and consideration to industry's concerns without compromising the interests of the public. We hope that each of our recommendations are seriously considered and incorporated into the final public notification guidelines.

NOTIFICATION REQUIREMENTS

AIR TOXICS "HOT SPOTS" PROGRAM

	Notification	Risk Reduction	Monitoring
Level 0 (Risk < 10 in a million)	District Summary	None	Routine Updates
Level 1 (Risk: 10 - 99 in a million)	- Letters to Households - Public Meetings	- Voluntary Risk Reduction Audit and Source Reduction - Possible Regulation	Annual Info Updates
Level 2 (Risk: 100 - 490 in a million)	- Letters to Households - Public Meetings	- Mandatory Risk Reduction Audit and Source Reduction - Possible Regulation	Possible Annual Tests
Level 3 (Risk: >500 in a million)	- Letters to Households - Periodic Public Meetings	- Mandatory Risk Reduction Audit and Source Reduction - Probable Regulation	Possible Continuous Emission Monitoring

Exhibit "A"

H-1
A-64

0002

Exhibit "B"

GENERAL REQUIREMENTS AND DEFINITIONS:

This document contains BAAQMD policy regarding compliance with the notification requirements of AB2588, the Air Toxics "Hot Spot" Information and Assessment Act of 1987. This policy applies to all facilities which have been identified as "high priority" facilities pursuant to AB2588. The "affected area" for each degree of impact is the area where the risk falls in the specified range. For example, a facility with a Level 2 degree of impact will have an area where the impact exceeds the threshold of Level 2 impact. This area will be surrounded by a larger area where the impact is Level 1; the facility will not have to meet the Level 2 impact notice requirements for this area, but will have to meet the Level 1 impact notice requirements.

A facility's impact will be reclassified if the operator submits a permit application which will result in a reduction of emissions sufficient to reduce the risk below the relevant criterion. The proposed reduction must occur within two years of the date of submittal of the authority to construct. If the proposed reductions are not achieved on schedule, the permit application will be considered a "knowingly submitted false statement or representation" subject to the penalties in Health and Safety Code Section 44381 (b). Alternatively, the operator may submit a risk assessment which utilizes newly available information (local meteorology, new emission factors from source tests, etc.) which presents a more accurate risk estimate. The operator of a facility which is required to provide periodic notification or hold periodic meetings shall continue to do so until relieved of that requirement, in writing, by the Air Pollution Control Officer.

All requirements [illegible]ctive as of the date that the Board accepts the staff report sum[illegible]ts of the risk assessments. The first notification letter m[illegible]within 90 days of that date.

DEGREE OF IMPACT: LEVEL 0

RESIDENTIAL RISK: less than 10×10^{-6}

Recordkeeping & Monitoring:

No special Recordkeeping requirements. Facilities which are subject to AB2588 (emissions above the "degree of accuracy" threshold) will be required to submit updated operating information periodically. The maximum period between updates will be two years, in conformance with the provisions of the "Hot Spots" Act.

Public Notice

None. The results of any risk assessments performed by or for these companies will be summarized in the BAAQMD's annual report on the Toxic Air Contaminant program.

Risk Reduction

None required due to this program.

Exhibit "C"

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

SHORT LETTER (LEVEL 1 FACILITIES)

<date>

<XYZ Dairy Company> has prepared a health risk assessment for its *<ice cream>* facility at *<A Street, Berkeley>*. A health risk assessment is a document that describes the possible health effects which may result from exposure to routine emissions of toxic air contaminants.

The purpose of this notice is to inform you that the risk assessment has been prepared, and to let you know how to obtain more information. The risk assessment, and this notification, were prepared in order to comply with the requirements of the California Air Toxics "Hot Spot" Information and Assessment Act of 1987.

This notification is being provided because you have a right to know about air pollution in your community. It does not mean that you are in a "Hot Spot".

Most of the calculated cancer risk from this facility comes from *<chocolate, vanilla, and strawberry>*.

The health risk assessment itself is a report which describes in detail the basis for the risk estimate. You may review the risk assessment at the offices of the Bay Area Air Quality Management District by making an appointment with the Toxics Section.

The District has many programs to reduce the public's exposure to toxic air contaminants. To find out more about these programs, please write or call the Toxics Section.

You may receive similar notices from other facilities in your area.

If you are operating a business at this address, we recommend that you post this notice where your employees can see it.

FOR MORE INFORMATION:

Toxics Section
Bay Area Air Quality Management District
939 Ellis Street, San Francisco, CA 94109
(415) 771-6000

SAMPLE

0020

939 ELLIS STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 771-6000 • FAX (415) 928-8560

Business Climate

STATE PLAGUED BY RIGID REGULATION ACCORDING TO COMPETITIVENESS COUNCIL

A blueprint for improving the state's business climate drafted by the Council for California Competitiveness is getting rave reviews from industry, but catcalls from environmentalists.

Titled "California's Jobs and Future," the report concludes that California needs a net increase of 250,000 jobs per year just to stay even with population growth, but lost more than 330,000 jobs during 1991 because of business failures, layoffs, and companies moving to other states.

"Things are much worse than we expected, much worse than you know," Chairman Peter Ueberroth told reporters in Sacramento April 23. "California has become a costly and difficult place to do business," said the former baseball commissioner and Olympic czar.

The report concludes that small businesses are discouraged because of harassment from government agencies, manufacturers are being squeezed out by rigid and excessive regulations, many of the state's existing businesses are deciding to expand in other states, some of California's most prized industries are being plucked away by other states and countries, and the state is experiencing a shift from high-paying jobs to low-paying, low-skill jobs.

The report places part of the blame on state environmental regulations and the agencies that enforce them.

Permit Streamlining Urged

"Decades of good intentions have produced an accumulation of regulations that in the aggregate are placing a massive burden on California's businesses, municipalities, consumers and taxpayers," the report contends.

To help ease that burden, the council proposes establishing a one-stop process for environmental permits, speeding up project approval by allowing master environmental impact reports and repealing the state Corporate Criminal Liability Act of 1989.

The report received an enthusiastic review from the California Chamber of Commerce. "This is an excellent report that clearly outlines an action program that is in the best interests of all Californians," said President Kirk West April 23 in a prepared statement. "If we adopt the measures in this report, we will send a strong signal to all employers that things are going to be turned around."

Critics See 'Nothing New'

Critics quickly dismissed the report, labeling it as part of an historic campaign by business interests to boost corporate profits at the expense of environmental protections.

"There's very little new here," said Assemblyman Terry Friedman (D-Sherman Oaks), the main speaker at an April 27 press conference held to denounce the report.

"Rather than come up with real solutions to real problems, they chose to propose an extreme program which will undermine basic environmental laws," said Michael Paparian, director of Sierra Club California, in a statement he released at the press conference. He called Ueberroth's report unbalanced and unreasonable.

"The report calls for industry self-regulation, easing up on evaluation of dangerous facilities, and restricting public access to the decision-making process about dangerous facilities in their communities," he says. "The report should be recalled, a broader and more representative group of Californians should be brought in to work on it, and it should be re-issued when it truly contains real solutions to the problems the state faces."

The 17-member council was created by Republican Gov. Pete Wilson more than a year ago to analyze ways the state can increase its job base while at the same time giving a boost to state revenues.

Reform Recommendations

As part of its mission, the council recommends a series of reforms to streamline state environmental regulations, saying the state can reduce the regulatory burden on businesses without degrading the environment:

▸ The state's environmental permit process would be restructured to allow one-stop shopping. A centralized database would be set up so businesses know what information they must provide. Cal-EPA has already proposed streamlined permitting, and legislation is pending.

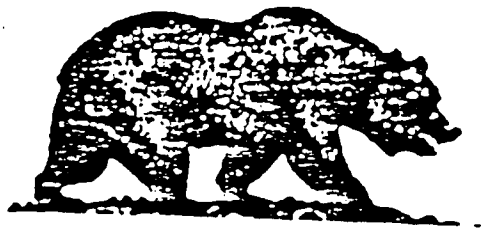
▸ The state would seek authority to administer all environmental programs itself rather than at the federal level and would generally adopt standards that meet, but do not exceed federal standards. The state could adopt more stringent standards only after hearings in which socioeconomic and environmental benefits were reviewed by an independent body. In addition, regional and local agencies would not be allowed to adopt programs or standards different from those put in place by the state.

Comprehensive Permits

▸ The California Environmental Protection Agency would be required to develop a comprehensive permit covering all the environmental regulations that apply to a particular industry. Businesses in that industry then could notify the agency they intended to be

Exhibit "E"

CALIFORNIA'S JOBS AND FUTURE



COUNCIL ON CALIFORNIA COMPETITIVENESS

April 23, 1992

The Problems

California's job hemorrhage is partly the result of the recession and of cutbacks in defense and aerospace spending. But the major problems besetting California are self-inflicted. Through our indifference to the need for job creation in this state, we are crippling ourselves. As a result, California is losing jobs in a variety of ways:

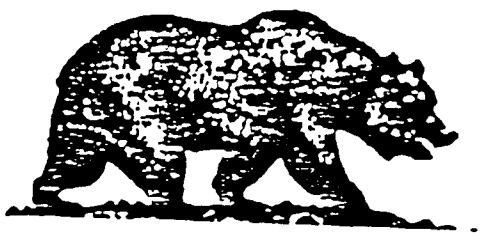
- Small and medium-sized businesses, which are the real creators of new jobs (and upon which we have focused) are being discouraged, harassed, shut down, and driven off.
- Manufacturing is being squeezed out by rigid and excessive regulation.
- Many existing businesses in California are taking their expansions to another state.
- There is a shift from higher-paying jobs to low-skill, low-paying jobs.
- Our most prized industries are being plucked away by other countries and states.
- Key national technology projects, such as the Earthquake Research Center going to Buffalo, New York, are lost to other states by our political failures.

Jobs leave because staying is too hard and too expensive. California has created a nightmarish obstacle course for business, job and revenue growth. Among the hurdles addressed in this report are:

- A permitting and regulatory quagmire that overwhelms small and medium-sized business managers and, in some cases, causes projects to take longer to get started than it took the United States to win World War II.
- A system of fees, permits, and exactions that costs as much as $40,000 per housing unit and virtually assures that, unless the system changes, affordable housing cannot be built in California.
- A system in which agencies support themselves by means of self-determined fees and fines for which they are both judge and jury.

Exhibit "F"

CALIFORNIA'S JOBS AND FUTURE



COUNCIL ON CALIFORNIA COMPETITIVENESS

April 23, 1992

The goal of the Council is not to eliminate regulation but to refine regulation, to maintain and enhance its positive effects while eliminating the burdens. The Council is particularly concerned about the adverse impact of California's regulatory system on the goal of providing a supply of affordable housing. The reforms proposed here are partially directed at resolving that problem.

At the heart of the matter is the need for a new attitude about the relationship between our environment and our economy. Business, government, and community groups must work together to examine the validity of regulations and procedures and seek to provide the most efficient and least costly regulatory system possible. This partnership's goal must be to eliminate the regulatory controls and practices that do not achieve their desired results or whose benefits are found to have little value, and to find a way to balance the use of our fiscal resources to the highest good.

This section addresses the 12 problems raised most frequently during testimony before the Council and recommendations for alleviating those problems. Available upon request is an extended report that gives greater detail on the testimony and more in-depth analysis. The first problem applies to all state and local agencies with regulatory/permitting power. The next five problems in this report have been categorized as "land-use problems" and focus primarily on issues related to the development of real property and affordable housing. The next five problems have been categorized as "environmental problems" and focus primarily on issues related to air quality, water quality, and the handling of solid and hazardous waste. Although the Council recognizes that there is significant overlap between categories, the distinction provides a useful frame of reference for the reader. Finally, the last problem deals with just one program in which a worthy goal — worker safety — is being implemented in a way that lacks common sense and is particularly onerous for small business.

Chevron

Chevron U.S.A. Inc.
P.O. Box 1392, Bakersfield, CA 93302

R. J. Work
Manager—Environmental, Safety, Fire & Health
Western Production Business Unit

July 10, 1992

COMMENTS ON CAPCOA DRAFT DOCUMENT
AB 2588 PUBLIC NOTIFICATION GUIDELINES

Mr. Richard Corey
California Air Resources Board
Stationary Source Division
Toxic Air Contaminant Identification Branch
P. O. Box 2815
Sacramento, CA 95812

Dear Mr. Corey:

Chevron U.S.A. Production Company has reviewed the June 1992 draft of CAPCOA's Public Notification Guidelines, and would like to take this opportunity to comment on several aspects of the document.

1) *Section II.3. (page 7) acknowledges that communicating with the press is "desirable". This part of the guidelines should be enhanced, reflecting the fact that information presented in the media will be an important part of the public notification process, regardless of whether or not it satisfies the legal requirements of AB 2588. For members of the public not receiving letters, press reports will be their only source of information about facilities' results, and even those people who eventually receive letters may first be "notified" through the media.*

This being the case, CAPCOA should recommend that the press release prepared by the district that includes facility Health Risk Assessment (HRA) results be reviewed by the ad hoc public notification committee. The review should ensure that the press release includes the same information to help place risks in perspective that will be included in the district's notification letters. CAPCOA may wish to provide an example format for a press release in which HRA results are announced.

Secondly, the guidelines should include a suggestion that districts communicate with individual facilities prior to releasing their HRA results to the press. Facilities should be given an opportunity to confirm their scores prior to release to avoid having inaccurate information published.

Thirdly, the guidelines should recommend that Districts report all scores on an equivalent basis (either fenceline MEI or risk at the nearest residential receptor) to avoid unfair

comparisons between facilities. The basis of the results reported to the media should be clearly stated in the press release.

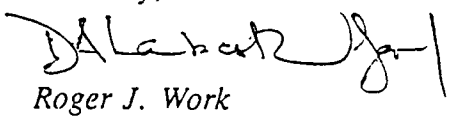
2) *Section III.A., paragraph 3 (page 11), addresses the subject of a suggested threshold for noncancer health risk. This section states that OEHHA has specified that a hazard index (HI) of five be used as the notification level for most substances. Use of an HI of five as the threshold in oilfield production areas where hydrogen sulfide is present may result in widespread notification on the basis of an odor annoyance standard, rather than a true health hazard. OEHHA should be requested to review their recommended threshold with respect to hydrogen sulfide, or CAPCOA should leave open the possible use by districts of notification thresholds greater than five.*

3) *CAPCOA has not specifically recommended whether reductions in emissions made and documented since 1989 be given consideration in the notification process. Many districts have not yet decided or announced whether they will require notification of receptors no longer impacted at excessive levels of emissions. In the event that facilities which have permanently reduced their health risk below the level requiring notification are still expected to send out letters, the language of the sample letter in Table III-1 (page 13) is inappropriate.*

   For those cases, the district's letter should discuss exposure and risk in the past tense, and include the current level of risk and a summary of what was done to reduce emissions in the second or third paragraph. Otherwise, the letter may lead residents to conclude that they are still being exposed to high levels of toxic emissions.

In addition to the above comments, we fully support recommendations for improving the guidelines which have been submitted by the Western States Petroleum Organization. We would like to thank CAPCOA and ARB staff for their efforts in developing these guidelines, and appreciate being given an opportunity to comment on the draft document. Please direct any questions regarding these comments to Ms. Doris Lambertz at (805) 633-4453.

Sincerely,



Roger J. Work

Richard Corey
California Air Resources Board
Stationary Source Division
Toxic Air Contaminant Identification Branch
P.O. Box 2815
Sacramento, CA 95812

Dec 3/12

Mr. Corey:

As a former engineer with the Ventura County Air Pollution Control District, I appreciate the work that has gone into preparing the Public Notification Guidelines for the Air Toxics Hot Spots Program. I am concerned primarily with the comparative risk section of the sample notice.

The sample notification letter (p.13) allows the Districts to insert a risk factor for ambient air in California as an attempt to put the facility's contribution to that risk "into perspective". First, a statewide ambient average bears virtually no relationship to the actual background exposure for the notice recipient. Second, such calculated risk assessments are far more questionable than source specific assessments, so their inclusion in the sample letter undermines the legislative intent of AB2588 - to get the best information we have into the hands of those exposed.

While the intent may not be to dilute the impact of the notice, it certainly will have that effect. Limited resources have already required that we rely on information provided by the sources as the foundation for the risk assessments. We then allow the facility to attach a letter, which will no doubt be intended to downplay the risk. As regulators it is our role to strike a balance between the industry and the public interests. It is clear that the Hot Spots program is weighted heavily toward protecting industry interests. Faced with this problem, the District notification letters should play no role in assisting in the dilution of the effectiveness of this program.

I suggest, paragraph five of the sample notification letter be deleted. The guidelines should continue to set standards for what the industry attachment can include in terms of comparative risks.

In addition, given that the spanish speaking population is a significant portion of those effected by toxic emissions, the guidelines should suggest the District notification letters be printed in spanish on the reverse side of every letter sent. We should not be guessing which communities need the translation at the risk of inadequate notice.

Sincerely,

Douglas A. McWilliams

Douglas A. McWilliams
255 Wilson
Albany, CA 94710

WSPA
Western States Petroleum Association

Outline of WSPA's Oral Comments
on the CAL-EPA/CAPCOA Public Notification
Guidelines for AB-2588
presented by
Cathy Reheis
July 1, 1992
in
Fresno
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1. In general, WSPA believes CAPCOA & CAL-EPA have done a good job at developing clear, straight forward guidance for how air districts should have facilities disclose their air toxic risk impact to their neighbors. However, we have a few suggestions for improving the guidelines.

2. WSPA suggests that somewhere in the district's notification letter the point be made that the toxic impact is not being caused by illegal emissions. Experience in the Bay Are indicates that the public might perceive the emissions to be in excess of permitted levels. The district letter should attempt to head off this possible misperception.

3. Section II.3 (page 7) acknowledges that communicating with the press is "desirable". WSPA believes that the press have all the information and education needed to clearly help the public understand the nature and extent of any risk as well as the intent of the public notification process. Any details left out of the press releases may cause confusion in those readers who do not receive notification letters. WSPA recommends that the District's press releases discussing the HRA results be reviewed by the ad hoc public notification committee and should include the same kind of information regarding putting risk into perspective that the actual notices contain.

4. The guidelines acknowledge on pg 9, second paragraph, that the "single-level" procedure may have a disadvantage in that there is minimal difference in notification requirements for facilities, even if the risks vary substantially. We suggest that the guidelines explain this disadvantage in more detail. We believe the "single-level" approach is very unfair to some marginally significant-risk facilities and may mislead the public to think the air toxics problem is a simple case of "risk" or "no risk" -- good companies vs. bad companies. That is not the case.

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WSPA prefers the tiered approach over the single-level approach. And, we believe most air districts will conclude likewise if they are fully informed in the guidelines of the pros and cons of each approach.

5. On pg 11, the guidelines state that OEHHA is currently identifying additional substances, besides lead, for which a more stringent HI trigger might be appropriate.

Use of a Hazard Index of five (5) as a threshold for non-cancer health risk notification in oilfield production areas where hydrogen sulfide is present may result in widespread notification on the basis of an odor annoyance standard, rather than a true health hazard.

WSPA is asking for specifics regarding the substances which CAPCOA is mentioning. WSPA believes that OEHHA should not make those decisions in a closed room, but should open up that process to allow public discussion. We request additional public workshops to discuss OEHHA's upcoming proposed changes.

6. CAPCOA has avoided recommending whether notification should be based strictly on conditions existing in 1989, or whether reductions in emissions made and documented since that time be given consideration in the notification process. Many Districts have not decided or announced whether they will require notification to individuals no longer exposed at levels above the "significant risk" level. In the event that facilities which have permanently reduced their health risk below the notification requirement level are still required to notify, the language of the sample letter in Table III-1 (page 13) is inappropriate.

For those cases, the Districts' letters should discuss exposure and risk in the past tense, and include the current level of risk and a summary of the steps taken by the facility to reduce the emissions. This should be located either in the second or third paragraph. If this is not done, the letter may lead residents to believe that they are still being exposed to a significant health risk.

7. The guidelines recommend that the district letter put the facility's risk into perspective by comparing it to total ambient air risk as measured at some "nearby" ARB or district monitors. On pg 16 in the fourth paragraph, the guidelines state that ARB can provide that data. WSPA suggests that ARB make it more readily available by including it in the guidelines now. If districts see the risk values, they may be more apt to use them.

The guidelines should also recommend that districts try using visual aids in their letter. A bar chart could readily help the public put the facility's risk in perspective with the total ambient levels.

On pg 15 the guidelines suggests avoiding comparisons that look at involuntary cancer risks, such as diet. However, WSPA suggests that the public should be informed of their average total cancer risk (250,000 in a million, as the BAAQMD mentions in its letter). Otherwise, the reader may be left with the impression that air pollution is a major cause of cancer, when in reality it causes only about 1% of all cancer while diet causes 35%. ARB might want to test its letter in focus groups and see what the public really wants to know.

8. The guidelines seem to use the word "required" rather loosely to describe some tasks. We suggest that the guidelines carefully distinguish which tasks are specifically required by the Hot Spots law from those tasks that are merely recommendations of the CAPCOA/CAL-EPA AB2588 Committee. For example, in the second paragraph on pg 18, the guidelines state: "The facility operator is required to prepare and enclose their own letter as part of the notification package." This is not necessarily legally required if an air district decides to adopt different procedures.

In the fourth paragraph on pg 18, the guidelines state, "...the only other requirement concerning the facility cover letter is that it identify a contact and phone number." Although we believe this is a good suggestion we do not believe this is a legal requirement under AB2588. Therefore, we suggest that the sentence be reworded to strike the word "requirement".

Also, in the second paragraph on pg 19 we suggest the words "requirement" and "required" be changed to "recommendation" and "recommended".

WSPA
Western States Petroleum Association

Outline of WSPA's Oral Comments
on the CAL-EPA/CAPCOA Public Notification
Guidelines for AB-2588
presented by
Frank Giles on
June 26, 1992
in
Los Angeles

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June 26, 1992

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Los Angeles, California 90026
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CAPCOA Workshop
Los Angeles, California

My name is Ruben McDavid and I am an Environmental Engineer with ten years of experience in the preparation of Health Risk Assessments. I am a California Registered Environmental Assessor and I serve as a Environmental Community Advisor for the group Mothers of East Los Angeles and for the Office of Supervisor Gloria Molina for the First District in the City of Los Angeles.

After reading the CAPCOA draft document "Public Notification Guidelines" issued in June 1992, I like to express my concerns on the proposed policies to notify the community, particularly, the Hispanic minority community which I represent today.

One of the main goals of the Air Toxics "Hot Spots" Information and Assessment Act of 1987 is to establish notification procedures specified by the district in accordance with the California Code of Regulations Health and Safety Code section 44362 (b).

The guidelines that CAPCOA discusses today in this workshop present the minimum requirements to comply with the regulations; however, these guidelines are inadequate when protecting the health and safety of our community, particularly, sensitive populations such as children and elderly individuals.

First, the document "Public Notification Guidelines" should be translated into different languages for the benefit of the significant and interested minority groups living in the State of California. This will enhance the public participation process and will help to inform those minorities who are unfamiliar with the program.

The notification procedures are not effective and are not designed to provide a degree of confidence in the community, in particular, in inner cities where we see the highest degree of toxic exposure of chemical emissions from facilities concentrated in areas where the low income class and minority groups reside.

The guidelines establish carcinogenic and noncancer health risk in notification thresholds. The document puts too much emphasis in the cancer risk threshold of 10 in 1 million. This number can mislead

the community and can be questioned when protecting sensitive subpopulations such as children and elderly people. On the other hand, for noncancer health risk, the procedure specifies a hazard index or total hazard index of greater than five in order to trigger notification requirements. This value is completely unacceptable and it tells me that the community can be exposed to five times concentrations over the acceptable exposure level. Without a substantial evidence that a community can tolerate these chemical insults, we reject the decisions from CAPCOA and the Office of Environmental Health Hazard Assessment.

The district sample notification letter for carcinogenic risk describes the risk of cancer for average individuals; however, it does not explain how children and the elderly people will be affected due to chemical exposure. The sample notification letters for chronic noncancer health risk and acute noncancer health risk are vague and do not make a clear description of acute versus chronic adverse health effects. In addition, these letters do not explain the fact when an affected household receive more than one letter and the cumulative impact of carcinogenic and noncancer health effects of the total emissions of the area in question.

In addition, CAPCOA should initiate a study of the effectiveness of the risk communication program within several districts to establish inadequacies and recommend future amendments to the air toxics program.

cc: Ms. Juana Gutiérrez, Director of Mothers of East Los Angeles
Mr. Chi Mui, Field Representative to Assemblywoman Ms. Lucile Royball-Allard.
Mr. Steve Jiménez, Aid to Supervisor Ms. Gloria Molina.
Mr. Robert Pease, Project Manager, South Coast Air Quality Management District.

APPENDIX B

SAMPLING OF SUGGESTED READING/BIBLIOGRAPHY

United States
Environmental Protection Agency
Washington DC 20460

April
1988
OPA-87-020

EPA

Seven Cardinal Rules of Risk Communication

here are no easy prescriptions for successful risk communication. However, those who have studied and participated in recent debates about risk generally agree on seven cardinal rules. These rules apply equally well to the public and private sectors.

Although many of the rules may seem obvious, they are continually and consistently violated in practice. Thus, a useful way to read these rules is to focus on why they are frequently not followed.

Accept and involve the public as a legitimate partner

A basic tenet of risk communication in a democracy is that people and communities have a right to participate in decisions that affect their lives, their property, and the things they value.

Guidelines: Demonstrate your respect for the public and underscore the sincerity of your effort by involving the community early, before important decisions are made. Involve all parties that have an interest or a stake in the issue under consideration. If you are a government employee, remember that you work for the public. If you do not work for the government, the public still holds you accountable.

Point to Consider:

- The goal of risk communication in a democracy should be to produce an informed public that is involved, interested, reasonable, thoughtful, solution-oriented, and collaborative; it should not be to diffuse public concerns or replace action.

Plan carefully and evaluate your efforts

Risk communication will be successful only if carefully planned.

Guidelines: Begin with clear, explicit risk communication objectives—such as providing information to the public, motivating individuals to act, stimulating response to emergencies, or contributing to the resolution of conflict. Evaluate the information you have about the risks and know its strengths and weaknesses. Classify and segment the various groups in your audience. Aim your communications at specific subgroups in your audience. Recruit spokespeople who are good at presentation and interaction. Train your staff—including technical staff—in communication skills; reward outstanding performance. Whenever possible, pretest your messages. Carefully evaluate your efforts and learn from your mistakes.

Points to Consider:

- There is no such entity as "the public"; instead, there are many publics, each with its own interests, needs, concerns, priorities, preferences, and organizations.
- Different risk communication goals, audiences, and media require different risk communication strategies.

Listen to the public's specific concerns

If you do not listen to people, you cannot expect them to listen to you. Communication is a two-way activity.

Guidelines: Do not make assumptions about what people know, think, or want done about risks. Take the time to find out what people are thinking: use techniques such as interviews, focus groups, and surveys. Let all parties that have an interest or a stake in the issue be heard. Identify with your audience and try to put yourself in their place. Recognize people's emotions. Let people know that you understand what they said, addressing their concerns as well as yours. Recognize the "hidden agendas," symbolic meanings, and broader economic or political considerations that often underlie and complicate the task of risk communication.

Point to Consider:

- People in the community are often more concerned about such issues as trust, credibility, competence, control, voluntariness, fairness, caring, and compassion than about mortality statistics and the details of quantitative risk assessment.

Be honest, frank, and open

In communicating risk information, trust and credibility are your most precious assets.

Guidelines: State your credentials; but do not ask or expect to be trusted by the public. If you do not know an answer or are uncertain, say so. Get back to people with answers. Admit mistakes. Disclose risk information as soon as possible (emphasizing any reservations about reliability). Do not minimize or exaggerate the level of risk. Speculate only with great caution. If in doubt, lean toward sharing more information, not less—or people may think you are hiding something. Discuss data uncertainties, strengths and weaknesses — including the ones identified by other credible sources. Identify worst-case estimates as such. and cite ranges of risk estimates when appropriate.

Point to Consider:

- Trust and credibility are difficult to obtain. Once lost they are almost impossible to regain completely.

Coordinate and collaborate with other credible sources

Allies can be effective in helping you communicate risk information.

Guidelines: Take time to coordinate all inter-organizational and intra-organizational communications. Devote effort and resources to the slow, hard work of building bridges with other organizations. Use credible and authoritative

intermediaries. Consult with others to determine who is best able to answer questions about risk. Try to issue communications jointly with other trustworthy sources (for example, credible university scientists, physicians, or trusted local officials).

Point to Consider:

- Few things make risk communication more difficult than conflicts or public disagreements with other credible sources.

Meet the needs of the media

The media are a prime transmitter of information on risks; they play a critical role in setting agendas and in determining outcomes.

Guidelines: Be open with and accessible to reporters. Respect their deadlines. Provide risk information tailored to the needs of each type of media (for example, graphics and other visual aids for television). Prepare in advance and provide background material on complex risk issues. Do not hesitate to follow up on stories with praise or criticism, as warranted. Try to establish long-term relationships of trust with specific editors and reporters.

Point to Consider:

- The media are frequently more interested in politics than in risk; more interested in simplicity than in complexity; more interested in danger than in safety.

Speak clearly and with compassion

Technical language and jargon are useful as professional shorthand. But they are barriers to successful communication with the public.

Guidelines: Use simple, non-technical language. Be sensitive to local norms, such as speech and dress. Use vivid, concrete images that communicate on a personal level. Use examples and anecdotes that make technical risk data come alive. Avoid distant, abstract, unfeeling language about deaths, injuries, and illnesses. Acknowledge and respond (both in words and with actions) to emotions that people express—anxiety, fear, anger, outrage, helplessness. Acknowledge and respond to the distinctions that the public views as important in evaluating risks, e.g., voluntariness, controllability, familiarity, dread, origin (natural or man-made), benefits, fairness, and catastrophic potential. Use risk comparisons to help put risks in perspective; but avoid comparisons that ignore distinctions that people consider important. Always try to include a discussion of actions that are under way or can be taken. Tell people what you cannot do. Promise only what you can do, and be sure to do what you promise.

Points to Consider:

- Regardless of how well you communicate risk information, some people will not be satisfied.
- Never let your efforts to inform people about risks prevent you from acknowledging—and saying—that

any illness, injury, or death is a tragedy.

- If people are sufficiently motivated, they are quite capable of understanding complex risk information, even if they may not agree with you.

This pamphlet was drafted by Vincent T. Covello and Frederick W. Allen, with the assistance and review of numerous colleagues in and out of government. Covello is Director of the Center for Risk Communication at Columbia University and is currently President of the Society for Risk Analysis (SRA). The views expressed here do not necessarily represent the views of Columbia University or the SRA. Allen is Associate Director of the Office of Policy Analysis at the Environmental Protection Agency (EPA). The EPA has published this pamphlet as a non-binding reference document, recognizing that the manner in which the guidance should be applied will necessarily vary from case to case. The authors invite your comments.

United States
Environmental Protection
Agency

Office of
Toxic Substances
Washington DC 20460

TSCA Assistance Office

EPA

Explaining Environmental Risk

Explaining Environmental Risk

Some Notes on
Environmental Risk
Communication

by
Peter M. Sandman
November 1986

Contents

"Important If True"

In colonial times newspaper "correspondents" were nothing more than acquaintances of the publisher, writing home from their travels. Unable to confirm or disconfirm their reports, cautious publishers often printed them under the headline "Important If True."

"Explaining Environmental Risk" should be read in the spirit of this caution. While I have leaned heavily on the risk communication research literature where I could, many questions haven't been thoroughly studied, and here I have relied on my experience, my sense of other people's experience, and, frankly, my biases. If your experience and biases suggest different answers, try them. If you want to stick more closely to research findings, check the sources listed at the end.

Why are so many risk assessment and risk management people beginning to take an interest in risk communication? There are two answers, I think, one entirely admirable and the other more open to question. The good news is that experts and managers are coming to recognize that how people perceive a risk determines how they respond to it, which in turn sets the context for public policy. It is hard to have decent policies when the public ignores serious risks and recoils in terror from less serious ones. The task of risk communication, then, isn't just conveying information, though that alone is a challenge: it is to alert people when they ought to be alerted and reassure them when they ought to be reassured. If your job is directing the cleanup at chemical spills, or running a right-to-know program, or siting new waste facilities—in fact, if your job has anything to do with setting or administering or following environmental regulations—explaining environmental risk is an important piece of your job. And it's probably a piece for which you have had little training.

The more questionable reason for the growing interest in risk communication is the hope in some quarters that communicating about the environment can somehow replace managing it or regulating it aggressively. This is a common dilemma for communication specialists—advocates of bad policies sometimes imagine that they can get away with anything if they sell it cleverly enough, while advocates of good policies sometimes imagine that they don't have to sell at all. At a January 1986 national conference on risk communication (co-sponsored by the Conservation Foundation, the National Science Foundation, the

Environmental Protection Agency, and other organizations), the sessions on how to alert people to serious risks were sparsely attended, while overflow crowds pondered ways of calming people down. People sometimes need to be calmed down—but the ultimate goal of risk communication should be rational alertness, not passive trust.

If a public that views risk with rational alertness strikes you as a desirable outcome, "Explaining Environmental Risk" should help. This is neither a theoretical treatise nor a nitty-gritty cookbook; along with the practical suggestions for effective communication, I have tried to explain why some strategies work and others fail, so that you can build on this understanding to design your own strategies.

Though I hate to admit it, risk communication is a simpler field than risk assessment or risk management. It just isn't that hard to understand how journalists and nontechnical publics think about risk. But it *is* crucial to understand, and not mastering the rudiments of risk communication has led a lot of smart people to make a lot of foolish mistakes. With apologies to busy readers, I have therefore resisted the urge to produce an executive summary or a list of recommendations. Technicians can get by on cookbooks, perhaps, but decision-makers need to understand.

Much depends, in fact, on whether you think risk communication is a job that can safely be left to "technicians" (public relations staff, community affairs officers) or whether—as I am convinced—you believe it must become an integral part of risk management. Although I hope public information people will find some value in what I have to say, my main goal is for environmental protection commissioners and plant managers to read it ... not merely pass it along to the public information office.

The temptation to pass it along to the public information office—and then forget it—is almost overwhelming, I know. It's not just that decision-makers are busy people. It's not even that decision-makers don't realize how greatly their success depends on dealing effectively with the media and the public. It's more that they wish it weren't so, that dealing with the media and the public seems in so many ways the least pleasant, least controllable, least *fair* part of their work. Most risk managers, I suspect, spend a good deal of time hoping the media and the public will go away and leave them to do their jobs in peace.

But since they won't, the next best thing is to understand better why they won't, how they are likely to react to what you have to say, and what you might want to say differently next time. I hope "Explaining Environmental Risk" will help.

Four on-going research projects have added greatly to my understanding of risk communication. They are: (1) "Environmental Risk Reporting" and "Risk Communication for Environmental News Sources" (with David B. Sachsman, Michael Greenberg, Audrey R. Gotsch, Mayme Jurkat, and Michael Gochfeld), both funded by the National Science Foundation Industry/University Cooperative Center for Research on Hazardous and Toxic Substances; (2) "Getting to Maybe: Building Toward Community-Developer Negotiations on New Hazardous Waste Facilities" (with Jim Lanard and Emilie Schmeidler), funded by the Fund for New Jersey; (3) "Manual and Conference for DEP Risk Communication" (with Caron Chess and B.J. Hance), funded by the New Jersey Spill Fund, New Jersey Department of Environmental Protection; and (4) "Radon Risk Communication Symposium and Recommendations" and "Radon Knowledge, Attitudes, and Behavior in New Jersey" (with Neil Weinstein), both funded by the New Jersey Department of Environmental Protection. Of course my colleagues and funders on these projects are not responsible for my speculations in this report.

Several organizations have invited me to address them on strategies of risk communication, providing an opportunity to develop the ideas expressed in this report and test them on thoughtful and experienced audiences. I am grateful especially to the National Governors' Association, the New Jersey Hazardous Waste Facilities Siting Commission, the Council of Scientific Society Presidents, the Institute for Environmental Studies of the University of North Carolina, and the Air Pollution Control Association.

Peter M. Sandman is Professor of Environmental Journalism at Cook College, Rutgers University, New Brunswick, NJ, and Director of the Environmental Communication Research Program of the New Jersey Agricultural Experiment Station.
Preparation of this report was funded by the Office of Toxic Substances of the United States Environmental Protection Agency as part of the Agency's effort to obtain diverse views on risk communication. Publication of this document does not signify that the contents necessarily reflect the views and policies of the Agency.

Dealing With The Media

1. Environmental risk is not a big story. The mass media are not especially interested in environmental risk. Reporters do care whether or not an environmental situation is risky: that's what makes it newsworthy. But once the possibility of hazard is established—that is, once someone asserts the risk on the record—the focus turns to other matters: how did the problem happen, who is responsible for cleaning it up, how much will it cost, etc. Assessing the extent of the risk strikes most journalists as an academic exercise. The reporter's job is news, not education: events, not issues or principles. And the news is the risky thing that has happened, not the difficult determination of how risky it actually is.

In an emergency, of course, the extent of the acute risk is the core of the story: radio reporters in particular want to know first and foremost whether to tell listeners to stay indoors, to evacuate, not to drink the water, etc. But the media don't especially want to know the ins-and-outs of risk assessment, the details of how great the risk is likely to be, how sure the experts are, or how they found out. If the story is important enough, these technical details merit a follow-up, a sidebar on the third or fourth day—but few stories are important enough.

The typical news story on environmental risk, in other words, *touches* on risk itself, while it *dwells* on more newsworthy matters. In 1985 newspaper editors in New Jersey were asked to submit examples of their best reporting on environmental risk, and the articles were analyzed paragraph by paragraph. Only 32 percent of the paragraphs dealt at all with risk. Nearly half of the risk paragraphs, moreover, focused on whether a substance assumed to be risky was or was not present (e.g. is there dioxin in the landfill), leaving only 17 percent of the paragraphs that dealt directly with riskiness itself (e.g. how hazardous is dioxin). In a parallel study, reporters were asked to specify which information they would need most urgently in covering an environmental risk emergency. Most reporters chose the basic risk information, saving the details for a possible second-day story. What happened, how it happened, who's to blame, and what the authorities are doing about it all command more journalistic attention than toxicity during an environmental crisis.

The nature of the crisis determines how much stress the media put on risk as opposed to other issues. Reporters know, for example, that a chemical spill is a risk story, and at the scene of a spill they will keep asking about toxic effects even after they are told the chemical is benign and inert. A fire story, on the other hand, automatically raises questions about how the fire started, how much damage was done, who turned in the alarm, and the like; many reporters won't realize unless told that a fire in a battery factory or a supermarket warehouse is a toxic event. But even when reporters understand that environmental risk is a key element of the crisis, their appetite for risk information is strong but easily sated: they want to know badly, but they don't want to know much.

And when there is no crisis? The extent of a *chronic* risk is newsworthy only when events make it so—for example, when a court battle or a regulatory action hinges on a disputed risk assessment. Sources wishing to "sell" a chronic risk story to the media must therefore work to make it newsworthy. Give it a news peg—that is, make something happen that reporters can cover. Make it interesting. Build the case for its importance. Provide a prop worth focusing a camera on. But expect only partial success; reporters flock to the scene of a crisis, but they have to be seduced into covering chronic risk.

Among the greatest environmental risks in New Jersey is indoor radon contamination. Because it is new and serious, it received considerable media attention in 1985 and early 1986. Then the coverage began to slip. The easy news pegs were over: the discovery of the problem, the first home in the state with a super-high reading, the passage of radon legislation. With no "radon industry" to fight back, the conflict that journalism feeds on has been conspicuously missing from the radon story. Radon is more a health problem and a housing problem than an environmental controversy, and its coverage is correspondingly muted. And radon at least has the "advantage" of cancer, the disease we love to hate. Imagine its low visibility if it gave people emphysema instead.

2. Politics is more newsworthy than science. The media's reluctance to focus on risk for more than a paragraph or two might be less of a problem if that paragraph or two were a careful summary of the scientific evidence. It seldom is. In fact, the media are especially disinclined to cover the science of risk. Most of the paragraphs devoted to risk in the New Jersey study consisted of unsupported opinion—someone asserting or denying the risk without documentation. Only 4.2 percent of the paragraphs (24 percent of the risk paragraphs) took an intermediate or mixed or tentative

position on the extent of the risk. And only a handful of the articles told readers what standard (if any) existed for the hazard in question, much less the status of research and technical debate surrounding the standard.

The media's focus on the politics of risk rather than the science of risk is most visible in the sources relied upon in risk coverage. In the New Jersey study, 57 percent of the sources cited were government, with state government (22 percent) leading the pack. Industry captured 15 percent of the paragraphs; individual citizens and advocacy groups were cited in 7 percent each. Uninvolved experts such as academics—those least likely to have an axe to grind, most likely to have an intermediate opinion and a technical basis for it—were cited in only 6 percent of the paragraphs. Of course sources from government, industry, and environmental groups may also have scientific rationales for their judgments, and "experts" are not always neutral. Still, it is important that the media get their risk information from people who are directly involved in the news event; only occasionally do they seek out uninvolved experts for guidance on the extent of the risk.

Trying to interest journalists in the abstract issues of environmental risk assessment is even tougher than trying to get them to cover chronic risk; abstract issues are not the meat of journalism. Yet the public needs to understand abstractions like the uncertainty of risk assessments, the impossibility of zero risk, the debatable assumptions underlying dose-response curves and animal tests. Where possible, it helps to embed some of these concepts in your comments on hot breaking stories—though reporters and editors will do their best to weed them out. When there is no breaking story, try to sell your favorite reporter on a feature on the fight over how conservative risk assessment ought to be. Emphasize that the problem underlies many of the stories he or she is covering. But understand why you will have only partial success, why the science of risk is inevitably less newsworthy than the politics of risk.

3. Reporters cover viewpoints, not "truths." Journalism, like science, attempts to be objective, but the two fields define the term very differently. For science, objectivity is tentativeness and adherence to evidence in the search for truth. For journalism, on the other hand, objectivity is balance. In the epistemology of journalism, there is no truth (or at least no way to determine truth); there are only conflicting claims, to be covered as fairly as possible, thus tossing the hot potato of truth into the lap of the audience.

Imagine a scale from 0 to 10 of all possible positions on an issue. Typically, reporters give short shrift to 0, 1, 9, and 10;

these views are too extreme to be credible, and are covered as "oddball" if they are covered at all. (You may think some pretty extreme viewpoints get respectful media attention—but you haven't met the people reporters decide not to quote.) Reporters also pay relatively little attention to 4, 5, and 6. These positions are too wishy-washy to make good copy: how do you build a story out of "further research is needed?" And sources with intermediate positions are unlikely to be heavily involved in the issue, certainly unlikely to seek media attention. Most of the news, then, consists of 2's and 3's and 7's and 8's, in alternating paragraphs if the issue is hot, otherwise in separate stories as each side creates and dominates its own news events. Objectivity to the journalist thus means giving both sides their chance, and reporting accurately what they had to say. It does not mean filling in the uninteresting middle, and it certainly does not mean figuring out who is right. Journalists who insist on trying to figure out who is right are encouraged to become columnists ... or to leave.

If a risk story is developing and you have a perspective that you feel has not been well covered, don't wait to be called. You won't be. And you don't need to wait. Reporters are busy chasing after the sources they *have* to talk to, and listening to the sources who *want* to talk to them. If you're in the former category—if you're safety manager at a plant that just experienced an uncontrolled release, for example—reporters will find their way to you, like it or not. Otherwise, rather than suffer in silence, become one of the relatively few experts who keep newsroom telephone numbers in their rolodex. You will find reporters amazingly willing to listen, to put you in their rolodexes, to cover your point of view along with all the others. Insofar as you can, try to be a 3 or a 7—that is, a credible exponent of an identifiable viewpoint. Don't let yourself be pushed to a position that is not yours, of course, but recognize that journalism doesn't trust 0's and 10's, and has little use for 5's.

In deciding whether to brave the considerable risks of media exposure, bear in mind that the story *will* be covered, whether or not you arrange to be included. News items are allotted media attention to the extent that journalists see them as important and interesting. Then the search begins for information to fill the vacuum—preferably new, solid, comprehensible information that reflects an identifiable point of view, but if there's not enough of that to fill the time or space that the story "deserves," reporters will scrounge for angles to make up the difference. The result can be an enlightening feature on the problems of technical prediction, but it's more likely to be a "color story"—the fears of

bystanders, the views of ideologues, the speculations of spokespeople, the history of mismanagement. Environmental risk stories often turn into political stories in part because political content is more readily available than technical content. Experienced sources work at filling the vacuum.

Although journalists tend not to believe in Truth-with-a-capital-T, they believe fervently in facts. Never lie to a reporter. Never guess. If you don't know, say you don't know. (But expect reporters to ask why you don't know.) If you don't know but can find out later, do so, and get back to the reporter as soon as possible, remembering that journalistic deadlines are measured in minutes, not months. If you know but can't tell, say you can't tell, and explain why. If you know but can't manage to say it in English, find someone who can. Reporters do not expect you to be neutral: in fact, they assume that you probably have an axe to grind, and prefer that you grind it visibly. They do expect you to grind it with integrity.

4. The risk story is simplified to a dichotomy. The media see environmental risk as a dichotomy: either the situation is hazardous or it is safe. This is in part because journalism dichotomizes all issues into sides to be balanced. But there are other reasons for dichotomizing risk. (1) It is difficult to find space for complex, nuanced, intermediate positions in a typical news story, say 40 seconds on television or 15 short paragraphs in a newspaper. (2) Virtually everyone outside his or her own field prefers simplicity to complexity, precision to approximation, and certainty to tentativeness. As Senator Edmund Muskie complained to an aide when the experts kept qualifying their testimony "on the other hand": "Find me an expert with one hand." (3) Most of the "bottom lines" of journalism are dichotomies— the chemical release is either legal or illegal, people either evacuate or stay, the incinerator is either built or not built. Like risk managers, the general public is usually asked to make yes-or-no decisions, and journalists are not wrong to want to offer information in that form.

Reporters are accustomed to the fact that technical sources invariably hedge, that nothing is ever "proved." They see this as a kind of slipperiness. Someone can always be found to advocate a discredited position (the tobacco industry has plenty of experts); no one wants to go too far out on a limb in case new evidence points in a different direction; researchers in particular like to leave the issue open so they can justify more research. Pinning down evasive sources is a finely honed journalistic skill. In terms of our 0-to-10 scale, reporters spend a fair amount of time trying to get 5-ish sources to make clear-cut 3 or 7 statements.

Sources, especially technical sources, greatly resent the pressure from journalists to dichotomize and simplify. The dichotomization of risk distorts the reality that nothing is absolutely safe or absolutely dangerous, and polarizes "more-or-less" disagreements into "yes-or-no" conflicts. And oversimplification of any sort can mislead the audience and damage the reputation of the source. But recognize that journalists *must* simplify what they cover. If you refuse to simplify what you say, the reporter will try to do the job for you (at great risk to accuracy) or will turn to a more cooperative source.

The most qualified person to simplify your views is you. Decide in advance what your main points are, and stress them consistently and repetitively, even if you have to hook them onto your answers to irrelevant questions. Leave out the technical qualifiers that your colleagues might insist on but the general public doesn't need to know (but leave in the qualifiers that really affect the bottom line). Stay away from jargon, and explain the technical terms you can't avoid. Check to make sure the reporter understands what you are saying; if the reporter looks glassy-eyed or starts frantically taking down every word, back up and start over.

When you explain the significance of a toxic substance to reporters, try to avoid the "is it there or not" dichotomy, which can so easily alarm people about tiny concentrations. On the other hand, don't expect reporters to sit still for a dissertation on uncertainty in dose-response curves. Your best bet, when you can, is to specify the amount involved, then set it against some standard of comparison, ideally a government exposure standard. This is still a dichotomy, of course; it leaves the misimpression that exposures just under the standard are perfectly safe while exposures just over are deadly. But as dichotomies go, "over or under" is preferable to "there or not."

If you want to fight the journalistic tendency to dichotomize risk, fight it explicitly, asserting that the issue is not "risky or not" but "how risky." Recognizing that intermediate positions on risk are intrinsically less dramatic and more complex than extreme positions, work especially hard to come up with simple, clear, interesting ways to express the middle view. Even so, expect reporters to insist on knowing "which side" you come down on with respect to the underlying policy dichotomy.

5. Reporters try to personalize the risk story. Perhaps nothing about media coverage of environmental risk so irritates technical sources as the media's tendency to personalize. "Have you stopped drinking it yourself?" "Would you let your family live there?" Such questions fly in

the face of the source's technical training to keep oneself out of one's research, and they confuse the evidentiary requirements of policy decisions with the looser ones of personal choices. But for reporters, questions that personalize are the best questions. They do what editors are constantly asking reporters to do: bring dead issues to life, make the abstract concrete, focus on real people facing real decisions. Personalizing also forces the source to dichotomize, to make the same "yea" or "nay" decision the reader or viewer must make.

In a sense, experts and policy-makers work at a different level of analysis than reporters and the public. As an EPA study on the ethelyne dibromide controversy noted, the agency wanted to talk about "macro-risk" (how many deaths will result from EDB contamination), while reporters kept asking about "micro-risk" (is it okay to eat the cake mix). The connections between macro-risk and micro-risk are difficult to draw. But for the individual citizen (faced with a cake mix, not a regulatory proposal), micro-risk *is* the issue, and reporters are not off-base in pushing technical sources to trace the connections. This is what personalizing questions are designed to do.

Knowing that reporters will inevitably ask personalizing questions, be prepared with answers. It is often possible to answer with both one's personal views and one's policy recommendations, and then to explain the difference if there is one. Or come with colleagues whose personal views are different, thus dramatizing the uncertainty of the data. If you are not willing (or not permitted) to acknowledge your own views, plan out some other way to personalize the risk, such as anecdotes, metaphors, or specific advice on the individual micro-risk level.

6. Claims of risk are usually more newsworthy than claims of safety. On our 0-to-10 scale of risk assertions, the 3's and 7's share the bulk of the coverage, but they don't share it equally. Risk assertions receive considerably more media attention than risk denials. Sometimes, in fact, the denials get even less coverage than the intermediate position, and reporters wind up "balancing" strong assertions of risk with bland statements that the degree of risk is unknown. In the New Jersey study, the proportions were 58 percent "risky," 18 percent "not risky," and 24 percent mixed or intermediate.

This is not bias, at least not as journalism understands bias. It is built into the concept of newsworthiness. If there were no allegation of risk, there would be no story. That something here might be risky is thus the core of the story; having covered it, the media give rather less attention to the counterbalancing notion that it might not be risky.

Other factors contribute to the tilt toward alarming news. One is the reporter's desire to "build" the story, to come back with something that editors will want to showcase. (Reporters are much more interested in selling stories than in "selling newspapers.") Another factor is the journalist's preference for simple, graphic language, for "dump" rather than "land emplacement." Risks sound riskier in simple language than in technical jargon. The factor closest to outright bias—but still distinguishable in the minds of journalists—is the media's traditional skepticism toward those in authority. Most news is about powerful people, but along with the advantage of access government and industry must endure the disadvantage of suspicion. Environmental groups, by contrast, receive less attention from the media, but the attention is more consistently friendly.

On the other hand, the media are often and justly criticized for being too slow to alert the public to new environmental hazards. Considering that we rely largely on journalism as an "early warning system" for social problems on the horizon, this is a serious criticism. To gain a journalistic hearing, the *first* source to assert a particular risk must be reasonably credible, highly committed, and very lucky or very skilled. Almost invariably, new technologies start out with sweetheart coverage. The environmental controversy comes later, and only after the controversy is on the media agenda (and the technology is perhaps too deeply embedded to be dislodged) does the risky side of the argument catch up and pull ahead. This may be the worst of all possible patterns: to fail to warn us about risks when it's early enough to make a societal go/no-go decision, then to frighten us deeply about risks after the decision has been made.

The principal exception to this pattern is emergencies. On a chronic risk story, the risk is the story. But a genuine emergency is by definition a big story; freed from the need to build the story, the reporter—especially the local reporter—may try to prevent panic instead. The President's Commission on the Accident at Three Mile Island conducted a content analysis of network, wire service, and major newspaper coverage during the first week of the 1979 accident. The Commission's expectations of sensationalism were not confirmed. Of media passages that were clearly either alarming or reassuring in thrust, 60 percent were reassuring. If you stick to the technical issues, eliminating passages about inadequate flow of information and general expressions of fearfulness from local citizens, the preponderance of reassuring over alarming statements becomes 73 percent to 27 percent.

It didn't seem that way at the time, of course. The information that something previously assumed to be safe may or may not be hazardous naturally strikes people as

alarming, almost regardless of the amount of attention paid to the two sides: imagine reading this evening that scientists disagree over whether your favorite food is carcinogenic. Thus, sociologist Allan Mazur has found that public fearfulness about risky new technologies is proportional to the amount of coverage, not to its character. Media coverage of environmental risk alerts the public to risks it was otherwise unaware of, and thus increases the level of alarm even when it is balanced.

None of this is a rationale for avoiding the media. Even balanced media coverage may not reliably lead to balanced public opinion, but balanced coverage is preferable to unbalanced coverage. And the coverage is most likely to be balanced when sources on all sides are actively trying to get covered. People with knowledge and opinions to share perform a public service when they share them. What can you do to alert people to the risks of a new technology before it is too late? What can you do to redress the alarming imbalance once the media have begun to overdramatize the risks? Energetic public relations will help with both tasks, though in both cases you will be working against the grain.

7. Reporters do their jobs with limited expertise and time. At all but the largest media, reporters covering environmental risk are not likely to have any special preparation for the assignment. Specialized environmental reporters are more the exception than the rule. Reporters covering an environmental emergency, for example, are mostly general-assignment reporters or police reporters, sent to the scene (or the phones) without time to scan the morgue, much less a technical handbook. And reporters tend to be science-phobic in the first place: the typical college journalism major takes only two science courses, and chooses those two carefully in an effort to avoid rigor. Though there are many exceptions, the average reporter approaches a technical story with trepidation (often hidden by professional bravado), expecting not to understand.

It doesn't help that the average reporter covers and writes two to three stories a day. Here too there are exceptions, but most journalists are in a great hurry most of the time. They must make deadline not just on this story, but quite often on the story they will be covering after this one. Their goal, reasonably, is not to find out all that is known, but just to find out enough to write the story. Even if they knew more, they would not have the space or airtime to report more, nor do they believe their readers or viewers would have the interest or patience to absorb more.

Note also that irrespective of what journalistic superstars earn, the average reporter at a small daily newspaper takes home perhaps $13,000-$18,000 a year. Considering their

incomes. journalists are shockingly competent and dedicated. but there are limits to how much competence and dedication a salary in the teens can purchase.

If the idea appeals to you. by all means offer to teach local journalists the basics of your field—but don't expect general assignment reporters to find much time (or much stomach) for technical training they will use only a few times a year. A beat reporter who covers your issue full-time (if you are lucky enough to have one) is a much better candidate for technical training.

Better still. train yourself (and your colleages and staff) in dealing with the media. Hiring effective public information specialists also helps. but reporters much prefer to talk to the people in charge and the people in the know. Especially during an emergency. press calls often go to the boss and the expert instead of the press office. so the boss and the expert should know how to talk to reporters. The annals of risk communication are full of stories of corporate managers and agency bureaucrats who shot themselves in the foot—and permanently damaged their organizations—because they hadn't the least idea of how to deal with the media. Even the best communication skills can't rescue a technical disaster. of course: who wants to handle the PR at Chernobyl or Bhopal? But inadequate communication skills can create a disaster that needn't have been.

And adequate communication skills are not so hard to develop. All it takes is a little understanding of how the media work. a little training in dealing with reporters. and a little experience to smooth out the rough edges. Why. then. do so many managers. bureaucrats. and technical experts avoid all contact with the media? Because it's risky. Reporters don't always understand what you're telling them: they don't always share your goals and values: they don't always handle their jobs the way you want them to. In all these ways and many others. reporters may be different from the people you usually work with. And so working with reporters may sound like something less than an unalloyed pleasure.

Pleasure or not. the risks of ducking the media are far greater than the risks of working with them. Every news story about environmental risk is a collaboration between the journalists working on the story and the sources they talk to. There's not too much you can do to change the nature of journalism or the performance of journalists. But you can understand them and figure out how to deal with them. By improving your own performance as a source. you *can* bring about a real improvement in media coverage of environmental risk.

Dealing With The Public

1. Risk perception is a lot more than mortality statistics. If death rates are the only thing you care about, then the public is afraid of the wrong risks. That is, public fears are not well correlated with expert assessments or mortality statistics. This is often seen as a perceptual distortion on the part of the public, but a more useful way to see it is as an oversimplification on the part of many experts and policy-makers. In other words, the concept of "risk" means a lot more than mortality statistics.

Virtually everyone would rather drive home from a party on the highway than walk home on deserted streets. Even if we do not miscalculate the relative statistical likelihood of a fatal mugging versus a fatal car crash, the possibility of getting mugged strikes us as an outrage, while we accept the possibility of an auto accident as voluntary and largely controllable through good driving. (Eighty-five percent of all drivers consider themselves better than average.) Similarly, a household product, however carcinogenic, seems a lot less risky than a high-tech hazardous waste treatment facility—the former is familiar and under one's own control, while the latter is exotic and controlled by others.

Risk perception experts (especially psychologists Paul Slovic, Sarah Lichtenstein, and Baruch Fischhoff) have spent years studying how people interpret risk. The following list identifies some of the characteristics other than mortality that factor into our working definitions of risk. Remember, these are not distortions of risk; they are part of what we mean by the term.

Less Risky	More Risky
Voluntary	Involuntary
Familiar	Unfamiliar
Controllable	Uncontrollable
Controlled by self	Controlled by others
Fair	Unfair
Not memorable	Memorable
Not dread	Dread
Chronic	Acute
Diffuse in time and space	Focused in time and space
Not fatal	Fatal
Immediate	Delayed
Natural	Artificial
Individual mitigation possible	Individual mitigation impossible
Detectable	Undetectable

The very same risk—as experts see these things—will be understood quite differently by the lay public depending on where it stands on the dimensions listed above. Some thirty percent of the homes in northern New Jersey, for example, have enough radon seeping into their basements to pose more than a one-in-a-hundred lifetime risk of lung cancer, according to estimates by the U.S. Environmental Protection Agency and the State Departments of Health and Environmental Protection. But despite considerable media attention (at least in the beginning), only five percent of North Jersey homeowners have arranged to monitor their homes for radon, and even among these few the level of distress is modest—compared, say, to the reaction when dioxin is discovered in a landfill, objectively a much smaller health risk. State officials were initially concerned about a radon panic, but apathy has turned out to be the bigger problem.

The source of the radon in New Jersey homes is geological uranium: it has been there since time immemorial, and no one is to blame. But three New Jersey communities—Montclair, Glen Ridge, and West Orange—have faced a different radon problem: landfill that incorporated radioactive industrial wastes. Though their home readings were no higher than in many homes on natural hotspots, citizens in the three communities were outraged and fearful, and they successfully demanded that the government spend hundreds of thousands of dollars per home to clean up the landfill. The state's proposal to dilute the soil nearly to background levels and then dispose of it in an abandoned quarry in the rural community of Vernon has provoked New Jersey's largest environmental demonstrations in years, with thousands of residents swearing civil disobedience sooner than let the trucks go through. In nearby communities threatened by naturally occurring radon, meanwhile, the concern is minimal.

It doesn't help to wish that people would confine their definitions of risk to the mortality statistics. They won't. Mortality statistics are important, of course, and policy-makers understandably prefer to focus on the risks that are really killing people, rather than the risks that are frightening or angering people because they are involuntary, unfamiliar, uncontrollable, etc. But successful risk commuication begins with the realization that risk perception is predictable, that the public overreacts to certain sorts of risks and ignores others, that you can know in advance whether the communication problem will be panic or apathy. And since these differences between risks are real and relevant, it helps to put them on the table. Merely acknowledging that a risk seems especially fearful because it

is unfamiliar or unfair will help. Doing something to remedy the unfamiliarity or unfairness will help even more.

Just to make things more complicated, risk perception is not linear, not for anybody. That is, you can't just multiply how probable a risk is by how harmful it is to get how badly people want to prevent it. (If you could, there would be no insurance industry and no gambling industry.) In general, people will pay more to protect against low-probability loss than to pursue low-probability gain—but if the price is low enough to be dismissed as negligible, even an infinitesimal chance at a big payoff looks good.

Risk judgments are also very responsive to verbal cues. Doctors, for example, are much more likely to prescribe a new medication that saves 30 percent of its patients than one that loses 70 percent of them. A pollutant or an accident that will eventually give cancer to 10,000 people sounds very serious, but one that will add less than one tenth of one percent to the national cancer rate sounds almost negligible. There is in fact no "neutral" way to present risk data, only ways that are alarming or reassuring in varying degrees.

Finally, people's perception of risk is greatly influenced by the social context. Our responses to new risks, in fact, are largely predictable based on our enduring values and social relationships. Do we like or dislike, trust or distrust the people or institutions whose decisions are putting us at risk? Do our friends and neighbors consider the risks tolerable or intolerable? Are they enduring higher risks than ours, or escaping with lower ones? All these factors, though they are irrelevant to the mortality statistics, are intrinsic parts of what we mean by risk.

2. Moral categories mean more than risk data. The public is far from sure that risk is the real issue in the first place. Over the past several decades our society has reached near-consensus that pollution is morally wrong—not just harmful or dangerous, not just worth preventing where practical, but *wrong*. To many ears it now sounds callous, if not immoral, to assert that cleaning up a river or catching a midnight dumper isn't worth the expense, that the cost outweighs the risk, that there are cheaper ways to save lives. The police do not always catch child molesters, but they know not to argue that an occasional molested child is an "acceptable risk."

Government agencies build their own traps when they promulgate policy (and public relations) in the language of morality, depicting food additives or chemical wastes or polluted water as evils against which they vow to protect the innocent public. It is not at all obvious which environmental "insults" (another term with moral overtones) a society should reject on moral grounds and which it should assess

strictly in terms of impact. But an agency that presents itself and its mission in moral terms should expect to be held to its stance. And an agency that wishes to deal with environmental risk in terms of costs-and-benefits instead of good-and-evil should proceed gently and cautiously, aware that it is tromping on holy ground.

Nor is morality the only principled basis for questioning the costs-and-benefits premises of risk assessment. Just as the moralist challenges the rightness of trading off certain risks against costs or benefits, the humanist challenges the coherence of the tradeoffs. How, the humanist asks, can anyone make sense of a standard that tries to put a cash value on human life? Or, indeed, of a standard that assumes that a hundred widely scattered deaths per year are equivalent to a one-in-a-hundred chance of obliterating a community of 10,000?

Similarly, the political critique of the premises of risk assessment begins by noting that "the greatest good for the greatest number" has always been a convenient rationale for the oppression of minorities. Democratic theory asserts that individuals and groups should be free to bargain for their own interests, and should be protected from the tyranny of the majority. There is nothing unreasonable about the suggestion that equitable distribution of risks and benefits—and of the power to allocate risks and benefits—is often more important than the minimization of total risk or the maximization of total benefit. It may be efficient to dump every environmental indignity on the same already degraded community, but it is not fair.

3. Policy decisions are seen as either risky or safe. Like the media, the public tends to dichotomize risk. Either the risk is seen as very frightening, in which case the response is some mix of fear, anger, panic, and paralysis; or the risk is dismissed as trivial, in which case the response is apathy.

In their personal lives, people do not necessarily dichotomize risk. Most of us are quite capable of understanding that the picnic might or might not be rained out, that the boss might or might not get angry, even that smoking might or might not give us lung cancer. Of course quantified probabilistic statements are genuinely hard to understand, especially when the probabilities are small, the units are unfamiliar, and the experts disagree. But beyond these perplexities lies another issue of enormous importance to risk communication. While people may (with difficulty) master a probabilistic risk statement that concerns what they should do to protect themselves, they are bound to resist probabilistic risk statements that concern what others (government, say) should do to protect them. On my own

behalf. I may choose to tolerate a risk or to protect against it, but for you to decide that my risk is tolerable is itself intolerable. Quantitative risk assessments, risk-benefit calculations, risk-cost ratios, and risk-risk comparisons are all hard to hear when we bear the risk and someone else makes the decision.

4. Equity and control issues underlie most risk controversies. Trust and credibility are often cited as the key problems of risk communication. Certainly few people trust government and industry to protect them from environmental risk. This is just as true of the passive, apparently apathetic public as it is of the activist, visibly angry public. The former is simply more fatalistic, more prone to denial, more completely drowned in undiscriminating chemophobia. The activist public, in other words, distrusts others to protect its interests and thus chooses to protect its own. The far larger passive public is passive not because it believes others will protect its interests, but because it doubts it can protect its own. Both publics listen to the reassurances of government and industry—if they listen at all—with considerable suspicion.

But to say that trust is the problem here is to assume that the goal is a passive public that doesn't mind being passive. If the goal is an actively concerned public, then the problem isn't that people are distrustful, but rather that government and industry demand to be trusted. Translate the question of trust into the underlying issue of control: Who decides what is to be done?

Any environmental risk controversy has two levels. The substantive issue is what to do; the process issue is who decides. So long as people feel disempowered on the process issue, they are understandably unbending on the substantive issue, in much the same way as a child forced to go to bed protests the injustice of bedtime coercion without considering whether he or she is sleepy. It isn't just that people oppose any decision they view as involuntary and unfair, regardless of its wisdom: because the equity and control issues come first, people typically never even ask themselves whether they agree on the merits. Outraged at the coercion, they simply dig in their heels. It is hardly coincidental that risks the public tends to overestimate generally raise serious issues of equity and control, while most of the widely underestimated risks (smoking, fat in the diet, insufficient exercise, driving without a seatbelt) are individual choices.

Specialists in negotiation and conflict resolution have long understood this relationship between substantive issues and the process issues of equity and control. Consider for

example a community chosen by the state government to "host" a hazardous waste incinerator. Justly offended at this infringement of local autonomy, the community prepares to litigate, frantically collecting ammunition on the unacceptability of the site. Both their anger and the legal process itself encourage community members to overestimate the risk of the proposed facility, to resist any argument that some package of mitigation, compensation, and incentives might actually yield a net gain in the community's health and safety, as well as its prosperity.

In interviews with community members faced with such a situation, the control issue tends to overshadow the risk assessment. But when citizens are asked to hypothesize a de facto community veto and envision a negotiation with the site developer, they become quite creative in designing an agreement they might want to sign: emissions offsets, stipulated penalties, bonding against a decline in property values, etc. It is still too early to tell whether a negotiated hazardous waste treatment facility is feasible. But *thinking about* such a negotiation becomes possible for community members only when they feel empowered—that is, when the issue of outside coercion has been satisfactorily addressed.

On this dimension people's response to information is not much different from their response to persuasion. We tend to learn for a reason—either we're curious, or we're committed to a point of view and looking for ammunition, or we're faced with a pending decision and looking for guidance. These three motivations account for most information-seeking and most learning—and none of them exerts much influence when an individual citizen is offered information about, say, a Superfund clean-up plan. A few stalwart souls will read out of curiosity, though it won't take much technical detail to put a stop to that. Activists will scour the plan for evidence to support their position or for evidence that their position wasn't properly considered. (Activists know what they think and believe they can make a difference.) And those charged with litigating, funding, or implementing the plan study it in order to do their jobs.

And the general public? Why learn if you feel powerless do anything about what you have learned? On the other hand, when the public has felt it was exercising real influence on a decision—the ASARCO smelter in Tacoma comes to mind—it has shown a surprising ability to master the technical details, including risk assessment details.

Not that every citizen wants to play a pivotal role in environmental decision. We have our own lives to lead, and we would prefer to trust the authorities. If the issue is unimportant enough we often decide to trust the authorities despite our reservations: if the crisis is urgent enough we

may feel we have no choice but to trust the authorities, again despite our reservations. The gravest problems of risk communication tend to arise when citizens determine that the issue is important, that the authorities cannot be trusted, and that they themselves are powerless. Then comes the backlash of outrage.

5. Risk decisions are better when the public shares the power. People learn more and assess what they learn more carefully if they exercise some real control over the ultimate decision. But this sort of power-sharing is, of course, enormously difficult for policy-makers, for a wide range of political, legal, professional, and psychological reasons. Interestingly, corporate officials may sometimes find power-sharing less unpalatable than government officials. Corporations have a bottom line to nurture, and when all else fails they may see the wisdom of sharing power in the interests of profit. But government officials have no profit to compensate for the loss of power, so they may find it harder to share.

"Public participation," as usually practiced, is not a satisfactory substitute for power-sharing. To be sure, telling the public what you're doing is better than not telling the public what you're doing. Seeking "input" and "feedback" is better still. But most public participation is too little too late: "After years of effort, summarized in this 300-page report, we have reached the following conclusions.... Now what do you folks think?" At this point it is hard enough for the agency to take the input seriously, and harder still for the public to believe it will be taken seriously. There is little power-sharing in the "decide-announce-defend" tradition of public participation.

The solution is obvious, though difficult to implement. Consultations with the public on risk management should begin early in the process and continue throughout. This means an agency must be willing to tell the public about a risk *before* it has done its homework—before the experts have assessed the risk thoroughly, before all the policy options have been articulated, way before the policy decisions have been made. There are dangers to this strategy: people will ask the agency what it proposes to do about the problem, and the agency will have to say it isn't sure yet. But on balance an agency is better off explaining why it doesn't yet have all the answers than explaining why it didn't share them years ago. In fact, not having all the answers can be made into an asset, a demonstration of real openness to public input. The goal, after all, is to enlist the rationality of the citizenry, so that citizens and experts are working together to figure out how great the risk is and what to do about it.

Of course no responsible agency will go public without *any* answers. What's important is to propose options X, Y, and Z tentatively, with genuine openness to V and W, and to community comments that may eliminate Z. A list of options and alternatives—and a fair and open procedure for comparing them and adding new ones—is far more conducive to real power-sharing than a "draft" decision.

This sort of genuine public participation is the moral right of the citizenry. It is also sound policy. Undeterred by conventional wisdom, lay people often have good ideas that experts can adapt to the situation at hand; at a minimum, lay people *are* the experts on what frightens them and what would reassure them. When citizens participate in a risk management decision, moreover, they are far more likely to accept it, for at least three reasons: (1) They have instituted changes that make it objectively more acceptable; (2) They have got past the process issue of control and mastered the technical data on risk; that is, they have learned why the experts consider it acceptable; and (3) They have been heard and not excluded, and so can appreciate the legitimacy of the decision even if they continue to dislike the decision itself.

6. Explaining risk information is difficult but not impossible, if the motivation is there. High school teachers have long marveled that a student who couldn't make sense of Dickens's *A Tale of Two Cities* had no trouble with *Hot Rod's* far more complex instructions on how to adjust one's sparkplugs for a fast start on a rainy day. Motivation makes the difference. When people have a reason to learn, they learn.

It is still possible for communicators to make the learning easier or harder—and scientists and bureaucrats have acquired a fairly consistent reputation for making it harder. At Three Mile Island, for example, the level of technical jargon was actually higher when the experts were talking to the public and the news media than when they were talking to each other. The transcripts of urgent telephone conversations between nuclear engineers were usually simpler to understand than the transcripts of news conferences. To be sure, jargon is a genuine tool of professional communication, conveying meaning (to those with the requisite training) precisely and concisely. But it also serves as a tool to *avoid* communication with outsiders, and as a sort of membership badge, a sign of the status difference between the professional and everyone else.

Like any piece of professional socialization, the tendency to mystify outsiders becomes automatic, habitual more than malevolent. It's hard for a layperson to get a straight answer from an expert even when nothing much is at stake. When a potentially serious risk is at stake, when people are

frightened or angry or exhausted. when the experts aren't sure what the answers are. when the search for a scapegoat is at hand. effective communication is a lot to expect.

In many risk communication interactions. in short. the public doesn't really want to understand (because it feels powerless and resentful) and the experts don't really want to be understood (because they prefer to hold onto their information monopoly). The public finds it convenient to blame the experts for obfuscation. and the experts find it convenient to blame the public for obtuseness. These motivational issues are probably more important than the traditional concerns of clarity in determining whether real knowledge will pass from expert to public.

Within the traditional concerns of clarity. the major issue is simplification. Even assuming a public that wants to understand and an expert who wants to be understood. risk information must still be simplified.

Insofar as possible. of course. it is wise to simplify language rather than content. That is. take the extra words to make hard ideas clear. Unfortunately. neither the expert source nor the lay audience is usually willing to dedicate the time needed to convey complex information a step at a time. So inevitably simplification becomes a matter of deciding what information to leave out. Experts are famous for their conviction that *no* information may be left out: unable to tell all. they often wind up telling nothing.

In fact. there are three standard rules of thumb for popularizing technical content. (1) Tell people what you have determined they ought to know—the answers to the questions they are asking. the instructions for coping with the crisis. whatever. This requires thinking through your information goals and your audience's information needs. then resolutely keeping the stress where you have decided it should be. (2) Add what people must know in order to understand and *feel* that they understand the information—whatever context or background is needed to prevent confusion or misunderstanding. The key here is to imagine where the audience is likely to go off-track. then provide the information that will prevent the error. (3) Add enough qualifiers and structural guidelines to prepare people for what you are not telling them. so additional information later will not leave them feeling unprepared or misled. Partly this is just a matter of sounding tentative: partly it is constructing a scaffolding of basic points on which people can hang the new details as they come in. Applying these three rules isn't easy. but it is a lot easier than trying to tell everything you know.

The hardest part of simplifying risk information is explaining the risk itself. This is hard not only because risk assess-

ments are intrinsically complex and uncertain, but also because audiences cling tenaciously to their safe-or-dangerous dichotomy. One path out of dichotomous thinking is the tradeoff: especially risk benefit, but also risk-cost or risk-risk. But there is solid evidence that lay people resist this way of thinking: trading risks against benefits is especially offensive when the risks raise moral issues and the "victims" are not the ones making the choice. Another alternative to dichotomy is the risk comparison: X is more dangerous than Y and less dangerous than Z. But as we have already noted, risk means a lot more than mortality statistics, and comparing an involuntary risk like nuclear power to a voluntary one like smoking invariably irritates more than it enlightens—as does *any* risk comparison that ignores the distinctions listed at the start of this section.

The final option to dichotomy is to provide the actual data on deaths or illnesses or probability of occurrence or whatever. This must be done carefully, with explicit acknowledgement of uncertainty, of moral issues, and of non-statistical factors like voluntariness that profoundly affect our sense of risk. Graphs and charts will help; people understand pictorial representations of probability far better than quantitative ones.

Don't expect too much. People can understand risk tradeoffs, risk comparisons, and risk probabilities when they are carefully explained. But usually people don't really want to understand. Those who are frightened, angry, and powerless will resist the information that their risk is modest; those who are optimistic and overconfident will resist the information that their risk is substantial. Over the long haul, risk communication has more to do with fear, anger, powerlessness, optimism and overconfidence than with finding ways to simplify complex information.

7. Risk communication is easier when emotions are seen as legitimate. It follows from what we have been saying that an important aspect of risk communication is finding ways to address the feelings of the audience. Unfortunately, experts and bureaucrats find this difficult to do. Many have spent years learning to ignore feelings, their own and everyone else's; whether they are scientists interpreting data or managers setting policy, they are deeply committed to doing their jobs without emotion.

At an even deeper level, scientists and bureaucrats have had to learn to ignore the individual, to recognize that good science and good policy must deal in averages and probabilities. This becomes most obvious when a few people feel threatened by a generally desirable action, such as the siting of a hazardous waste facility. Experts who are confident that the risk is small and the facility needed may

well try to sympathize with the target community—but their training tells them playing the odds is a good bet. somebody has to take the risk. the decision is rational. and that's the end of the matter.

Thus the most common sources of risk information are people who are professionally inclined to ignore feelings. And how do people respond when their feelings are ignored? They escalate—yell louder. cry harder. listen less—which in turn stiffens the experts. which further provokes the audience. The inevitable result is the classic drama of stereotypes in conflict: the cold scientist or bureaucrat versus the hysterical citizen.

Breaking this self-defeating cycle is mostly a matter of explicitly acknowledging the feeling (and the legitimacy of the feeling) *before* trying to explain anything substantive—because any effort to explain substance first will be experienced by people as just another way of not noticing how they feel. The trick. in other words. is to separate the feeling from the substance. and respond to the feeling first. "I can tell you're angry about this" won't eliminate the anger—nor should it—but it will eliminate the need to insist on the anger. and will thus free energy to focus on the issue instead. "A lot of people would be angry about this" and "in your position I would be angry about this" are even more empathic remarks. legitimating the anger without labeling the citizen. All three responses are far more useful than pretending that the anger isn't there or. worse yet. demanding that it disappear. Techniques of this sort are standard practice in many professional contexts. from police crisis intervention to family counseling. Training is available: risk communicators need not reinvent the wheel.

It helps to realize that experts and bureaucrats—their preferences notwithstanding—have feelings too. In a public controversy over risk. they are likely to have very strong feelings indeed. After all. they consider themselves moral people. yet they may be accused of "selling out" community health or safety or environmental protection. They consider themselves competent professionals. yet they may be accused of egregious technical errors. They very likely pride themselves on putting science or public service ahead of personal ambition. yet they may be accused of not caring. They chose their careers expecting if not gratitude at least a calm working environment and the trust and respect of the community. Instead they are at the center of a maelstrom of community distrust. perhaps even community hatred. It hurts.

The pain can easily transform into a kind of icy paternalism, an "I'm-going-to-help-you-even-if-you-*don't*-know-what's-good-for-you" attitude. This of course triggers even more distrust, even stronger displays of anger and fear. Risk communication stands a better chance of working when both sets of feelings—the expert's and the community's—are on the table.

Feelings are not usually the core issue in risk communication controversies. The core issue is usually control, and the way control affects how people define risk and how they approach information about risk. But the stereotypical conflict between the icy expert and the hysterical citizen is nonetheless emblematic of the overall problem. The expert has most of the "rational" resources—expertise, of course; stature; formal control of the ultimate decision. Neither a direct beneficiary nor a potential victim, the expert can afford to assess the situation coldly. Indeed, the expert dare not assess the situation in any other way. The concerned citizen, meanwhile, has mainly the resources of passion—genuine outrage; depth of commitment; willingness to endure personal sacrifice; community solidarity; informal political power. To generate the energy needed to stop the technical juggernaut, the citizen must assess the situation hotly.

A fundamental premise of "Explaining Environmental Risk" is that risk understanding and risk decision-making will improve when control is democratized. We will know this is happening when citizens begin approaching risk issues more coolly, and experts more warmly.

Selected Bibliography

Covello, Vincent T., "The Perception of Technological Risks: A Literature Review," *Technological Forecasting and Social Change*, 1983, pp. 285-287.

Covello, Vincent T., Detlof von Winterfeldt, and Paul Slovic, "Communicating Scientific Information about Health and Environmental Risks: Problems and Opportunities from a Social and Behavioral Perspective," in V. Covello, A. Moghissi, and V.R.R. Uppuluri, *Uncertainties in Risk Assessment and Risk Management* (New York: Plenum Press, 1986), in press.

Fischhoff, Baruch, "Protocols for Environmental Reporting: What to Ask the Experts," *The Journalist* (Foundation for American Communications), Winter 1985, pp. 11-15.

Klaidman, Stephen, "Health Risk Reporting," Institute for Health Policy Analysis, Georgetown University Medical Center, Washington, DC, 1985.

Mazur, Allan, "Media Coverage and Public Opinion on Scientific Controversies, *Journal of Communication*, 1981, pp. 106-115.

Mazur, Allan, "Bias in Risk-Benefit Analysis," *Technology in Society*, 1985, pp. 25-30.

Nelkin, Dorothy, *Science in the Streets* (New York: Twentieth Century Fund, 1984).

President's Commission on the Accident at Three Mile Island, *Report of the Public's Right to Information Task Force (Washington, DC: U.S. Government Printing Office, 1979).*

Ruckelshaus, William, "Risk in a Free Society," *Risk Analysis*, September 1984, pp. 157-163.

Sandman, Peter M., "Getting to Maybe: Some Communications Aspects of Hazardous Waste Facility Siting," *Seton Hall Legislative Journal*, Spring 1986.

BRIEF BIBLIOGRAPHY OF RELATED LITERATURE

Bruening, J. C., 1990. "Risk Communication: A Two-Way Connection". Occupational Hazards, pages 76-80, October 1990.

EPA, 1991. Environmental Protection Agency, "Air Pollution and the Public: A Risk Communication Guide for State and Local Agencies". EPA 450/3-90-025, June 1991.

EPA, 1990. Environmental Protection Agency, "Hazardous Substances in Our Environment: A Citizen's Guide to Understanding Health Risks and Reducing Exposure". EPA 230/09/90/081, September 1990.

EPA, 1989. Environmental Protection Agency, "Risk Communication About Chemicals In Your Community, Facilitator's Manual and Guide". EPA 230-09-89-067, December 1989.

EPA, 1989. Environmental Protection Agency, "Risk Communication About Chemical in Your Community, A Manual for Local Officials". EPA 230/09-89-066, December 1989.

Hance, B. J.; Chess, C.: and Sandman, P. M., 1989. "Improving Dialogue with Communities: A Risk Communication Manual for Government". Jersey Department of Environmental Protection, Division of Science and Research, August 1989.

National Research Council, 1989. "Improving Risk Communication", National Academy Press, Washington, D.C., 1989.

Przbyla, A. E., 1990. "Risk: How To Talk About It". Food Engineering, pages 72-75, January 1990.

Selected Bibliography

Covello, Vincent T., "The Perception of Technological Risks: A Literature Review." *Technological Forecasting and Social Change*, 1983, pp. 285-287.

Covello, Vincent T., Detlof von Winterfeldt, and Paul Slovic, "Communicating Scientific Information about Health and Environmental Risks: Problems and Opportunities from a Social and Behavioral Perspective," in V. Covello, A. Moghissi, and V.R.R. Uppuluri, *Uncertainties in Risk Assessment and Risk Management* (New York: Plenum Press, 1986), in press.

Fischhoff, Baruch, "Protocols for Environmental Reporting: What to Ask the Experts." *The Journalist* (Foundation for American Communications), Winter 1985, pp. 11-15.

Klaidman, Stephen, "Health Risk Reporting," Institute for Health Policy Analysis, Georgetown University Medical Center, Washington, DC, 1985.

Mazur, Allan, "Media Coverage and Public Opinion on Scientific Controversies, *Journal of Communication*, 1981, pp. 106-115.

Mazur, Allan, "Bias in Risk-Benefit Analysis," *Technology in Society*, 1985, pp. 25-30.

Nelkin, Dorothy, *Science in the Streets* (New York: Twentieth Century Fund, 1984).

President's Commission on the Accident at Three Mile Island, *Report of the Public's Right to Information Task Force (Washington, DC: U.S. Government Printing Office, 1979).*

Ruckelshaus, William, "Risk in a Free Society," *Risk Analysis*, September 1984, pp. 157-163.

Sandman, Peter M., "Getting to Maybe: Some Communications Aspects of Hazardous Waste Facility Siting," *Seton Hall Legislative Journal*, Spring 1986.

APPENDIX C

THE AIR TOXICS "HOT SPOTS" INFORMATION AND ASSESSMENT ACT

PART 6. AIR TOXICS "HOT SPOTS" INFORMATION AND ASSESSMENT

CHAPTER 1. LEGISLATIVE FINDINGS AND DEFINITIONS

44300. This part shall be known and may be cited as the Air Toxics "Hot Spots" Information and Assessment Act of 1987.

44301. The Legislature finds and declares all of the following:

(a) In the wake of recent publicity surrounding planned and unplanned releases of toxic chemicals into the atmosphere, the public has become increasingly concerned about toxics in the air.

(b) The Congressional Research Service of the Library of Congress has concluded that 75 percent of the United States population lives in proximity to at least one facility that manufactures chemicals. An incomplete 1985 survey of large chemical companies conducted by the Congressional Research Service documented that nearly every chemical plant studied routinely releases into the surrounding air significant levels of substances proven to be or potentially hazardous to public health.

(c) Generalized emissions inventories compiled by air pollution control districts and air quality management districts in California confirm the findings of the Congressional Research Service survey as well as reveal that many other facilities and businesses which do no actually manufacture chemicals do use hazardous substances in sufficient quantities to expose, or in a manner that exposes, surrounding populations to toxic air releases.

(d) These releases may create localized concentrations or air toxics "hot spots" where emissions from specific sources may expose individuals and population groups to elevated risks of adverse health effects, including, but not limited to, cancer and contribute to the cumulative health risks of emissions from other sources in the area. In some cases where large populations may not be significantly affected by adverse health risks, individuals may be exposed to significant risks.

(e) Little data is currently available to accurately assess the amounts, types, and health impacts of routine toxic chemical releases into the air. As a result, there exists significant uncertainty about the amounts of potentially hazardous air pollutants which are released, the location of those releases, and the concentrations to which the public is exposed.

(f) The State of California has begun to implement a long-term program to identify, assess, and control ambient levels of hazardous air pollutants, but additional legislation is needed to provide for the collection and evaluation of information concerning the amounts, exposures, and short- and long-term health effects of hazardous substances regularly released to the surrounding atmosphere from specific sources of hazardous releases.

(g) In order to more effectively implement control strategies for those materials posing an unacceptable risk to the public health, additional information on the sources of potentially hazardous air pollutants is necessary.

(h) It is in the public interest to ascertain and measure the amounts and types of hazardous releases and potentially hazardous releases from specific sources that may be exposing people to those releases, and to assess the health risks to those who are exposed.

44302. The definitions set forth in this chapter govern the construction of this part.

44303. "Air release" or "release" means any activity that may cause the issuance of air contaminants, including the actual or potential spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching,

dumping, or disposing of a substance into the ambient air and that results from the routine operation of a facility or that is predictable, including, but not limited to, continuous and intermittent releases and predictable process upsets or leaks.

44304. "Facility" means every structure, appurtenance, installation, and improvement on land which is associated with a source of air releases or potential air releases of a hazardous material.

44306. "Health risk assessment" means a detailed comprehensive analysis prepared pursuant to Section 44361 to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and populationwide health risks associated with those levels of exposure.

44307. "Operator" means the person who owns or operates a facility or part of a facility.

44308. "Plan" means the emissions inventory plan which meets the conditions specified in Section 44342.

44309. "Report" means the emissions inventory report specified in Section 44341.

CHAPTER 2. FACILITIES SUBJECT TO THIS PART

44320. This part applies to the following:

(a) Any facility which manufactures, formulates, uses, or releases any of the substances listed pursuant to Section 44321 or any other substance which reacts to form a substance listed in Section 44321 and which releases or has the potential to release total organic gases, particulates, or oxides of nitrogen or sulfur in the amounts specified in Section 44322.

(b) Except as provided in Section 44323, any facility which is listed in any current toxics use or toxics air emission survey, inventory, or report released or compiled by a district. A district may, with the concurrence of the state board, waive the application of this part pursuant to this subdivision for any facility which the district determines will not release any substance listed pursuant to Section 44321 due to a shutdown or a process change.

References at the time of publication (see page iii):

44320(b)

Regulations: 17, CCR, sections 90700–90703, 93303

44320

Regulations: 17, CCR, section 93306

44321. For the purposes of Section 44320, the state board shall compile and maintain a list of substances that contains, but is not limited to, all of the following:

(a) Substances identified by reference in paragraph (1) of subdivision (b) of Section 6382 of the Labor Code and substances placed on the list prepared by the National Toxicology Program issued by the United States Secretary of Health and Human Services pursuant to paragraph (4) of Section 262 of Public Law 95-622 of 1978. For the purposes of this subdivision, the state board may remove from the list any substance which meets both of the following criteria:

(1) No evidence exists that it has been detected in air.

(2) The substance is not manufactured or used in California, or, if manufactured or used in California, because of the physical or chemical characteristics of the substance or the manner in which it is manufactured or used, there is no possibility that it will become airborne.

(b) Carcinogens and reproductive toxins referenced in or compiled pursuant to Section 25249.8, except those which meet both of the criteria identified in subdivision (a).

(c) The candidate list of potential toxic air contaminants and the list of designated toxic air contaminants prepared by the state board pursuant to Article 2 (commencing with Section 39660) of Chapter 3.5 of Part 2, including, but not limited to, all substances currently under review and scheduled or nominated for review and substances identified and listed for which health effects information is limited.

(d) Substances for which an information or hazard alert has been issued by the repository of current data established pursuant to Section 147.2 of the Labor Code.

(e) Substances reviewed, under review, or scheduled for review as air toxics or potential air toxics by the Office of Air Quality Planning and Standards of the Environmental Protection Agency, including substances evaluated in all of the following categories or their equivalent: preliminary health and source screening, detailed assessment, intent to list, decision not to regulate, listed, standard proposed, and standard promulgated.

(f) Any additional substances recognized by the state board as presenting a chronic or acute threat to public health when present in the ambient air, including, but not limited to, any neurotoxins, or chronic respiratory toxins not included within subdivision (a), (b), (c), (d), or (e).

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 90700–90702, 93307, 93334, 93335

44322. This part applies to facilities specified in subdivision (a) of Section 44320 in accordance with the following schedule:

(a) For those facilities that release, or have the potential to release, 25 tons per year or greater of total organic gases, particulates, or oxides of nitrogen or sulfur, this part becomes effective on July 1, 1988.

(b) For those facilities that release, or have the potential to release, more than 10 but less than 25 tons per year of total organic gases, particulates, or oxides of nitrogen or sulfur, this part becomes effective July 1, 1989.

(c) For those facilities that release, or have the potential to release, less than 10 tons per year of total organic gases, particulates, or oxides of nitrogen or sulfur, the state board shall, on or before July 1, 1990, prepare and submit a report to the Legislature identifying the classes of those facilities to be included in this part and specifying a timetable for their inclusion.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 90702, 90703, 93303–93305

44323. A district may prepare an industrywide emissions inventory and health risk assessment for facilities specified in subdivision (b) of Section 44320 and subdivisions (a) and (b) of Section 44322, and shall prepare an industrywide emissions inventory for the facilities specified in subdivision (c) of Section 44322, in compliance with this part for any class of facilities that the district finds and determines meets all of the following conditions:

(a) All facilities in the class fall within one four-digit Standard Industrial Classification Code.

(b) Individual compliance with this part would impose severe economic hardships on the majority of the facilities within the class.

(c) The majority of the class is composed of small businesses.

(d) Releases from individual facilities in the class can easily and generically be characterized and calculated.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 93304, 93306

44324. This part does not apply to any facility where economic poisons are employed in their pesticidal use, unless that facility was subject to district permit requirements on or before August 1, 1987. As used in this section, "pesticidal use" does not include the manufacture or formulation of pesticides.

44325. Any solid waste disposal facility in compliance with Section 41805.5 is in compliance with the emissions inventory requirements of this part.

CHAPTER 3. AIR TOXICS EMISSION INVENTORIES

44340. (a) The operator of each facility subject to this part shall prepare and submit to the district a proposed comprchensive emissions inventory plan in accordance with the criteria and guidelines adopted by the state board pursuant to Section 44342.

(b) The proposed plan shall be submitted to the district on or before August 1, 1989, except that, for any facility to which subdivision (b) of Section 44322 applies, the proposed plan shall be submitted to the district on or before August 1, 1990. The district shall approve, modify, and approve as modified, or return for revision and resubmission, the plan within 120 days of receipt.

(c) The district shall not approve a plan unless all of the following conditions are met:

(1) The plan meets the requirements established by the state board pursuant to Section 44342.

(2) The plan is designed to produce, from the list compiled and maintained pursuant to Section 44321, a comprehensive characterization of the full range of hazardous materials that are released, or that may be released, to the surrounding air from the facility. Air release data shall be collected at, or calculated for, the primary locations of actual and potential release for each hazardous material. Data shall be collected or calculated for all continuous, intermittent, and predictable air releases.

(3) The measurement technologies and estimation methods proposed provide state-of-the art effectiveness and are sufficient to produce a true representation of the types and quantities of air releases from the facility.

(4) Source testing or other measurement techniques are employed wherever necessary to verify emission estimates, as determined by the state board and to the extent technologically feasible. All testing devices shall be appropriately located, as determined by the state board.

(5) Data are collected or calculated for the relevant exposure rate or rates of each hazardous material according to its characteristic toxicity and for the emission rate necessary to ensure a characterization of risk associated with exposure to releases of the hazardous material that meets the requirements of Section 44361. The source of all emissions shall be displayed or described.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 93300, 93301, 93303–93307, 93310–93315, 93320, 93321–93324, 93330–93340, 93345–93347

44341. Within 180 days after approval of a plan by the district, the operator shall implement the plan and prepare and submit a report to the district in ac-

cordance with the plan. The district shall transmit all monitoring data contained in the approved report to the state board.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 93300, 93301, 93303–93306, 93310–93315, 93320–93324, 93330–93340, 93345–93347

44342. The state board shall, on or before May 1, 1989, in consultation with the districts, develop criteria and guidelines for site-specific air toxics emissions inventory plans which shall be designed to comply with the conditions specified in Section 44340 and which shall include at least all of the following:

(a) For each class of facility, a designation of the hazardous materials for which emissions are to be quantified and an identification of the likely source types within that class of facility. The hazardous materials for quantification shall be chosen from among, and may include all or part of, the list specified in Section 44321.

(b) Requirements for a facility diagram identifying each actual or potential discrete emission point and the general locations where fugitive emissions may occur. The facility diagram shall include any nonpermitted and nonprocess sources of emissions and shall provide the necessary data to identify emission characteristics. An existing facility diagram which meets the requirements of this section may be submitted.

(c) Requirements for source testing and measurement. The guidelines may specify appropriate uses of estimation techniques including, but not limited to, emissions factors, modeling, mass balance analysis, and projections, except that source testing shall be required wherever necessary to verify emission estimates to the extent technologically feasible. The guidelines shall specify conditions and locations where source testing, fence-line monitoring, or other measurement techniques are to be required and the frequency of that testing and measurement.

(d) Appropriate testing methods, equipment, and procedures, including quality assurance criteria.

(e) Specifications for acceptable emissions factors, including, but not limited to, those which are acceptable for substantially similar facilities or equipment, and specification of procedures for other estimation techniques and for the appropriate use of available data.

(f) Specification of the reporting period required for each hazardous material for which emissions will be inventoried.

(g) Specifications for the collection of useful data to identify toxic air contaminants pursuant to Article 2 (commencing with Section 39660) of Chapter 3.5 of Part 2.

(h) Standardized format for preparation of reports and presentation of data.

(i) A program to coordinate and eliminate any possible overlap between the requirements of this chapter and the requirements of Section 313 of the Superfund Amendment and Reauthorization Act of 1986 (Public Law 99-499).

The state board shall design the guidelines and criteria to ensure that, in collecting data to be used for emissions inventories, actual measurement is utilized whenever necessary to verify the accuracy of emission estimates, to the extent technologically feasible.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 93300, 93301, 93303–93307, 93310–93315, 93320–93324, 93330–93340, 93345–93347

44343. The district shall review the reports submitted pursuant to Section 44341 and shall, within 90 days, review each report, obtain corrections and clari-

fications of the data, and notify the State Department of Health Services, the Department of Industrial Relations, and the city or county health department of its findings and determinations as a result of its review of the report.

44344. Emissions inventories developed pursuant to this chapter shall be updated biennially, in accordance with procedures established by the state board. These biennial updates shall take into consideration improvements in measurement techniques and advancing knowledge concerning the types and toxicity of hazardous materials released or potentially released.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 93307, 93330

44345. (a) On or before July 1, 1989, the state board shall develop a program to compile and make available to other state and local public agencies and the public all data collected pursuant to this chapter.

(b) In addition, the state board, on or before March 1, 1990, shall compile, by district, emissions inventory data for mobile sources and area sources not subject to district permit requirements, and data on natural source emissions, and shall incorporate these data into data compiled and released pursuant to this chapter.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 93330, 93345

44346. (a) If an operator believes that any information required in the facility diagram specified pursuant to subdivision (b) of Section 44342 involves the release of a trade secret, the operator shall nevertheless make the disclosure to the district, and shall notify the district in writing of that belief in the report.

(b) Subject to this section, the district shall protect from disclosure any trade secret designated as such by the operator, if that trade secret is not a public record.

(c) Upon receipt of a request for the release of information to the public which includes information which the operator has notified the district is a trade secret and which is not a public record, the following procedure applies:

(1) The district shall notify the operator of the request in writing by certified mail, return receipt requested.

(2) The district shall release the information to the public, but not earlier than 30 days after the date of mailing the notice of the request for information, unless, prior to the expiration of the 30-day period, the operator obtains an action in an appropriate court for a declaratory judgment that the information is subject to protection under this section or for a preliminary injunction prohibiting disclosure of the information to the public and promptly notifies that district of that action.

(d) This section does not permit an operator to refuse to disclose the information required pursuant to this part to the district.

(e) Any information determined by a court to be a trade secret, and not a public record pursuant to this section, shall not be disclosed to anyone except an officer or employee of the district, the state, or the United States, in connection with the official duties of that officer or employee under any law for the protection of health, or to contractors with the district or the state and its employees if, in the opinion of the district or the state, disclosure is necessary and required for the satisfactory performance of a contract, for performance of work, or to protect the health and safety of the employees of the contractor.

(f) Any officer or employee of the district or former officer or employee who, by virtue of that employment or official position, has possession of, or has access to, any trade secret subject to this section, and who, knowing that disclosure of the information to the general public is prohibited by this section, knowingly and willfully discloses the information in any manner to any person not entitled to receive

it is guilty of a misdemeanor. Any contractor of the district and any employee of the contractor, who has been furnished information as authorized by this section, shall be considered an employee of the district for purposes of this section.

(g) Information certified by appropriate officials of the United States as necessary to be kept secret for national defense purposes shall be accorded the full protections against disclosure as specified by those officials or in accordance with the laws of the United States.

(h) As used in this section, "trade secret" and "public record" have the meanings and protections given to them by Section 6254.7 of the Government Code and Section 1060 of the Evidence Code. All information collected pursuant to this chapter, except for data used to calculate emissions data required in the facility diagram, shall be considered "air pollution emission data," for the purposes of this section.

References at the time of publication (see page iii):

Regulations: 17, CCR, sections 93321, 93322, 93329

CHAPTER 4. RISK ASSESSMENT

44360. (a) Within 90 days of completion of the review of all emissions inventory data for facilities specified in subdivision (a) of Section 44322, but not later than December 1, 1990, the district shall, based on examination of the emissions inventory data and in consultation with the state board and the State Department of Health Services, prioritize and then categorize those facilities for the purposes of health risk assessment. The district shall designate high, intermediate, and low priority categories and shall include each facility within the appropriate category based on its individual priority. In establishing priorities pursuant to this section, the district shall consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, including, but not limited to, hospitals, schools, daycare centers, worksites, and residences, and any other factors that the district finds and determines may indicate that the facility may pose a significant risk to receptors. The district shall hold a public hearing prior to the final establishment of priorities and categories pursuant to this section.

(b) Within 150 days of the designation of priorities and categories pursuant to subdivision (a), the operator of every facility that has been included within the highest priority category shall prepare and submit to the district a health risk assessment pursuant to Section 44361. The district may, at its discretion, grant a 30-day extension for submittal of the health risk assessment.

(c) Upon submission of emissions inventory data for facilities specified in subdivisions (b) and (c) of Section 44322, the district shall designate facilities for inclusion within the highest priority category, as appropriate, and any facility so designated shall be subject to subdivision (b). In addition, the district may require the operator of any facility to prepare and submit health risk assessments, in accordance with the priorities developed pursuant to subdivision (a).

(d) The district shall, except where site specific factors may affect the results, allow the use of a single health risk assessment for two or more substantially identical facilities operated by the same person.

44361. (a) Each health risk assessment shall be submitted to the district. The district shall make the health risk assessment available for public review, upon request. After preliminary review of the emissions impact and modeling data, the district shall submit the health risk assessment to the State Department of Health Services for review and, within 180 days of receiving the health risk assessment, the State Department of Health Services shall submit to the district its comments

on the data and findings relating to health effects. The district shall consult with the state board as necessary to adequately evaluate the emissions impact and modeling data contained within the risk assessment.

(b) For the purposes of complying with this section, the State Department of Health Services may select a qualified independent contractor to review the data and findings relating to health effects. The State Department of Health Services shall not select an independent contractor to review a specific health risk assessment who may have a conflict of interest with regard to the review of that health risk assessment. Any review by an independent contractor shall comply with the following requirements:

(1) Be performed in a manner consistent with guidelines provided by the State Department of Health Services.

(2) Be reviewed by the State Department of Health Services for accuracy and completeness.

(3) Be submitted by the State Department of Health Services to the district in accordance with this section.

(c) The district shall reimburse the State Department of Health Services or the qualified independent contractor designated by the State Department of Health Services pursuant to subdivision (b), within 45 days of its request, for its actual costs incurred in reviewing a health risk assessment pursuant to this section.

(d) If a district requests the State Department of Health Services to consult with the district concerning any requirement of this part, the district shall reimburse the State Department of Health Services, within 45 days of its request, for the costs incurred in the consultation.

(e) Upon designation of the high priority facilities, as specified in subdivision (a) of Section 44360, the State Department of Health Services shall evaluate the staffing requirements of this section and may submit recommendations to the Legislature, as appropriate, concerning the maximum number of health risk assessments to be reviewed each year pursuant to this section.

44362. (a) Taking the comments of the State Department of Health Services into account, the district shall approve or return for revision and resubmission and then approve, the health risk assessment within 180 days of receipt. If the health risk assessment has not been revised and resubmitted within 60 days of the district's request of the operator to do so, the district may modify the health risk assessment and approve it as modified.

(b) Upon approval of the health risk assessment, the operator of the facility shall provide notice to all exposed persons regarding the results of the health risk assessment prepared pursuant to Section 44361 if, in the judgment of the district, the health risk assessment indicates there is a significant health risk associated with emissions from the facility. If notice is required under this subdivision, the notice shall include only information concerning significant health risks attributable to the specific facility for which the notice is required. Any notice shall be made in accordance with procedures specified by the district.

44363. (a) Commencing July 1, 1991, each district shall prepare and publish an annual report which does all of the following:

(1) Describes the priorities and categories designated pursuant to Section 44360 and summarizes the results and progress of the health risk assessment program undertaken pursuant to this part.

(2) Ranks and identifies facilities according to the degree of cancer risk posed both to individuals and to the exposed population.

(3) Identifies facilities which expose individuals or populations to any noncancer health risks.

(4) Describes the status of the development of control measures to reduce emissions of toxic air contaminants, if any.

(b) The district shall disseminate the annual report to county boards of supervisors, city councils, and local health officers and the district board shall hold one or more public hearings to present the report and discuss its content and significance.

44364. The state board shall utilize the reports and assessments developed pursuant to this part for the purposes of identifying, establishing priorities for, and controlling toxic air contaminants pursuant to Chapter 3.5 (commencing with Section 39650) of Part 2.

44365. (a) If the state board finds and determines that a district's actions pursuant to this part do not meet the requirements of this part, the state board may exercise the authority of the district pursuant to this part to approve emissions inventory plans and require the preparation of health risk assessments.

(b) This part does not prevent any district from establishing more stringent criteria and requirements than are specified in this part for approval of emissions inventories and requiring the preparation and submission of health risk assessments. Nothing in this part limits the authority of a district under any other provision of law to assess and regulate releases of hazardous substances.

44366. (a) In order to verify the accuracy of any information submitted by facilities pursuant to this part, a district or the state board may proceed in accordance with Section 41510.

CHAPTER 5. FEES AND REGULATIONS

44380. (a) On or before August 1, 1991, the state board shall adopt a regulation (1) requiring each district to adopt a fee schedule which recovers the costs of the district and assesses a fee upon the operator of every facility subject to this part and (2) setting forth the amount of revenue which the district must collect to recover the reasonable anticipated cost which will be incurred by the state board and the department to implement and administer this part. A district may request the state board to adopt a fee schedule for the district if the district's program costs are approved by the district board and transmitted to the state board by April 1 of the year in which the request is made. Commencing August 1, 1992, and annually thereafter, the state board shall review and may amend the fee regulation.

(b) The district shall notify each person who is subject to the fee of the obligation to pay the fee. If a person fails to pay the fee within 60 days after receipt of this notice, the district, unless otherwise provided by district rules, shall require the person to pay an additional administrative civil penalty. The district shall fix the penalty at not more than 100 percent of the assessed fee, but in an amount sufficient in its determination, to pay the district's additional expenses incurred by the person's noncompliance. If a person fails to pay the fee within 120 days after receipt of this notice, the district may initiate permit revocation proceedings. If any permit is revoked, it shall be reinstated only upon full payment of the overdue fee plus any late penalty, and a reinstatement fee to cover administrative costs of reinstating the permit.

(c) Each district shall collect the fees assessed pursuant to subdivision (a). After deducting the costs to the district to implement and administer this part, the district shall transmit the remainder to the Controller for deposit in the Air Toxics Inventory and Assessment Account, which is hereby created in the General Fund.

The money in the account is available, upon appropriation by the Legislature, to the state board and the department for the purposes of administering this part.

References at the time of publication (see page iii):

Regulations 17, CCR, sections 90700-90704

44381. (a) Any person who fails to submit any information, reports, or statements required by this part, or who fails to comply with this part or with any permit, rule, regulation, or requirement issued or adopted pursuant to this part, is subject to a civil penalty of not less than five hundred dollars ($500) or more than ten thousand dollars ($10,000) for each day that the information, report, or statement is not submitted, or that the violation continues.

(b) Any person who knowingly submits any false statement or representation in any application, report, statement, or other document filed, maintained, or used for the purposes of compliance with this part is subject to a civil penalty of not less than one thousand dollars ($1,000) or more than twenty-five thousand dollars ($25,000) per day for each day that the information remains uncorrected.

44382. Every district shall, by regulation, adopt the requirements of this part as a condition of every permit issued pursuant to Chapter 4 (commencing with Section 42300) of Part 4 for all new and modified facilities.

44384. Except for Section 44380 and this section, all provisions of this part shall become operative on July 1, 1988.

APPENDIX D

INFORMATION SHEET: THE AIR TOXICS "HOT SPOTS" PROGRAM

Appendix D
Information Sheet
The Air Toxics "Hot Spots" Program

What is the "Hot Spots" Program?

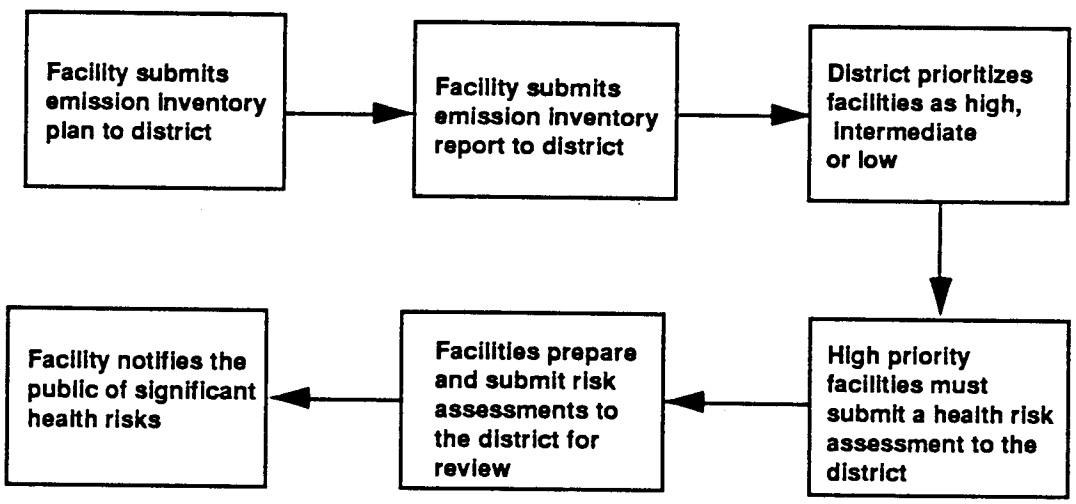
The Air Toxics "Hot Spots" Program was enacted by state law (Assemby Bill 2588) in 1987. The purpose of the law is to provide the public with information about the routine emission and potential health impacts of toxic pollutants released to the air by facilities.

What facilities must provide information?

The Air Toxics "Hot Spots" Program requires thousands of facilities that emit any of a multitude of toxic pollutants (over 700 pollutants) to the air to report on their emissions. Facilities as diverse as refineries, chrome platers, auto-body shops, and gas stations are required to provide information.

What are the steps in the program?

Facilities subject to the program must submit emission inventory plans and reports to the [***district name***]. The district uses this information to prioritize facilities to determine which may present a possible health risk and therefore must prepare a health risk assessment. The district uses the health risk assessment results to determine if the facility must notify the public of the risk assessment results. The diagram presented below illustrates the steps in the program.



What are toxic air pollutants?

The toxic air pollutants addressed under the Air Toxics "Hot Spots" Program include chemicals which may lead to various adverse health effects such as cancer, lung disease, and eye irritation.

What is a health risk assessment?

A health risk assessment is a report that estimates possible adverse health effects from emissions of toxic air pollutants.

Will I be notified about my exposure and health risk?

Under the Air Toxics "Hot Spots" Program, the [***district name***]requires facilities to notify the public of significant health risks resulting from emissions of toxic air contaminants. All people exposed to significant health risks will be notified.

How can I get more information?

If you have any questions or would like more information concerning the Air Toxics "Hot Spots" Program, please contact [district contact] at:

[District name]
[District address]
[City, CA Zip]
[District phone number]

APPENDIX E

INFORMATION SHEET: HEALTH RISK ASSESSMENT UNDER THE AIR TOXICS "HOT SPOTS" PROGRAM

Appendix E

Information Sheet

Health Risk Assessment Under the Air Toxics "Hot Spots" Program

The purpose of this fact sheet is to provide information on health risk assessment under the Air Toxics "Hot Spots" Program. Attached to this fact sheet is a brief glossary of health risk assessment terms as they relate to the Air Toxics "Hot Spots" Program.

What is a health risk assessment?

A health risk assessment is a report that describes the increased chance of developing adverse health effects, based on routine exposure to toxic air pollutants.

What are toxic air pollutants?

Toxic air pollutants are chemicals which may be emitted to the air by facilities. Under certain conditions, exposure to these toxic air pollutants may lead to adverse health effects such as cancer, liver damage, or eye irritation. The Air Toxics "Hot Spots" Program requires that information be collected on a multitude (over 700) of toxic air pollutants.

What is a carcinogenic risk?

A health risk assessment may include an estimate of the maximum carcinogenic risk resulting from exposure to certain toxic air pollutants. This estimated risk is the maximum possibility that a person could develop cancer as a result of lifetime exposure. The maximum estimated risk may be presented as the number of chances in a million of contracting cancer.

What is a noncancer health risk?

A health risk assessment may include an estimate of the hazard index or total hazard index resulting from exposure to toxic air pollutants. These estimates are numbers which can help indicate if noncancer adverse health effects (such as lung disease and eye irritation) are not expected, even in sensitive people. When these numbers exceed one for certain substances, a more thorough evaluation may be warranted.

What is a significant health risk?

Under the Air Toxics "Hot Spots" Program a significant risk is the level of risk or exposure, identified by the district, at which facility operators must notify the public. The district has determined that this level of risk or exposure justifies having facilities go through the notification process. This level of risk may be considerably lower than other risks such as those associated outdoor concentrations of air pollutants. Furthermore, this level of risk does not necessarily mean that those exposed will develop health effects. Rather, for carcinogenic effects, it is expressed as a probability that an individual may get cancer from a specified exposure. For noncancer health effects, the hazard index indicates how close an exposure is to a reference point (i.e., AEL) at or below which we do not expect adverse health effects.

Will I be notified about my exposure and health risk?

Under the Air Toxics "Hot Spots" Program, only those facilities which are found by the [***district name***] to present significant health risks are required to notify the public.

How can I get more information?

If you have any questions or would like more information concerning the Air Toxics "Hot Spots" Program, please contact [***district contact***] at:

[District name]
[District address]
[City, CA Zip]
[District phone number]

Attachment

Glossary of Health Risk Assessment Terms as Related to the Air Toxics "Hot Spots" Program

Acceptable exposure level:

The concentration of a toxic pollutant at which human exposure is not likely to result in adverse health effects, even in sensitive people. Examples of sensitive people include the elderly, those with disease, and those with asthma.

Acute exposure:

One or a series of short-term exposures generally lasting less than 24-hours.

Cancer:

A malignant new growth of cells.

Carcinogen:

A toxic air pollutant able to produce malignant tumor growth.

Chronic exposure:

Long-term exposure usually lasting from one year to a lifetime.

Concentration:

A measure of the amount of a toxic pollutant in a particular media (e.g., air, water, soil). The concentration of toxic pollutants in air may be expressed in parts per million or micrograms per cubic meter.

Dispersion Model:

A mathematical model or computer simulation used to predict the concentration of toxic air pollutants at specific locations as a result of mixing in the atmosphere.

Exposure:

Human contact with a toxic air pollutant. Contact may occur through inhalation of toxic air pollutants. Other possible methods of contact include consumption of water or vegetation upon which toxic air pollutants have deposited.

Hazard Index (HI):

The level of exposure to a toxic pollutant with noncancer health effects divided by an acceptable exposure level. For some substances, a hazard index of greater than one suggests the need for further evaluation to determine if adverse health effects are likely.

Total hazard index (HI):

The sum of hazard indices for pollutants with noncancer health effects that have the same or similar adverse health effects. For some substances, a total hazard index of greater than one suggests the need for further evaluation to determine if adverse health effects are likely .

Risk:

The possibility of injury, disease, or death which may result from exposure to toxic air pollutants.

Assumptions:

To conduct a risk assessment, assumptions or best scientific judgements are made in the absence of precise data. These assumptions are intended to avoid underestimating the risk. Each assumption made introduces an additional level of uncertainty into the estimated risk.

APPENDIX F

F-1: DISTRICT NOTIFICATION LETTER (CHRONIC NONCANCER HEALTH RISK)
F-2: DISTRICT NOTIFICATION LETTER (ACUTE NONCANCER HEALTH RISK)

Appendix F-1

Sample Notification Letter (chronic noncancer health risk)

Dear Neighbor:

This letter is to inform you that you may be exposed to toxic air pollutants. State law requires that ***[facility name]*** notify you of possible health risks resulting from routine emissions of toxic air pollutants from their facility. Approximately ***[number]*** homes or businesses are receiving this notice.

[Facility name], which is located at ***[facility address], [uses and]*** emits ***[emitted substance(s)]*** into the air ***[to produce product]***. The emitted substances are toxic air pollutants.

[Facility name] has written a report describing possible health effects from exposure to toxic air pollutants. The report has been reviewed by state health experts.

Based on the report, exposure to emissions from ***[facility name]*** may increase the possibility that you experience ***[adverse health effect(s) ex. respiratory irritation].*** This statement is based on assumptions designed to protect sensitive people in the population. These assumptions include. 1) That you will be exposed to the emissions for a long time (years). 2) That you live within approximately ***[number]*** feet of ***[facility name].*** If these conditions do not apply to you, your risk is likely to be lower. This assessment does not consider exposure to other toxic air pollutants besides those released by ***[facility name].***

The ***[district name]*** and the state are taking ***[many]*** steps to reduce emissions of toxic air pollutants. If you have questions, please call the district at the number provided below.

Enclosed is a letter prepared by ***[facility name]*** which provides information ***[including their efforts to reduce emissions of toxic air pollutants].***

If you have any questions concerning this letter, please call the *[district name and address]* at *[district phone number]*. In addition, if you are interested in attending a public meeting to discuss the information in this letter, please call the *[district name]* or fill out and return the enclosed postcard.

Note: Businesses receiving this notice should post it in an area(s) where it is most likely to be viewed by employees.

Appendix F-2

Sample Notification Letter (acute noncancer health risk)

Dear Neighbor:

This letter is to inform you that you may be exposed to toxic air pollutants. State law requires that ***[facility name]*** notify you of possible health risks resulting from routine emissions of toxic air pollutants from their facility. Approximately ***[number]*** homes or businesses are receiving this notice.

[Facility name], which is located at ***[facility address], [uses and]*** emits ***[emitted substance(s)]*** into the air ***[to produce product]***. The emitted substances are toxic air pollutants.

[Facility name] has written a report describing possible health effects from exposure to toxic air pollutants. The report has been reviewed by state health experts.

Based on the report, exposure to emissions from ***[facility name]*** may increase the possibility that you experience ***[adverse health effect(s) ex. respiratory irritation].*** This statement is based on assumptions designed to protect sensitive people in the population. These assumptions include. 1) That you will be exposed to the emissions for approximately one hour or more. 2) That you live within approximately ***[number]*** feet of ***[facility name].*** If these conditions do not apply to you, your risk is likely to be lower. This assessment does not consider exposure to other toxic air pollutants besides those released by ***[facility name].***

The ***[district name]*** and the state are taking ***[many]*** steps to reduce emissions of toxic air pollutants. If you have questions, please call the district at the number provided below.

Enclosed is a letter prepared by ***[facility name]*** which provides information ***[including their efforts to reduce emissions of toxic air pollutants].***

If you have any questions concerning this letter, please call the *[district name and address]* at *[district phone number]*. In addition, if you are interested in attending a public meeting to discuss the information in this letter, please call the *[district name]* or fill out and return the enclosed postcard.

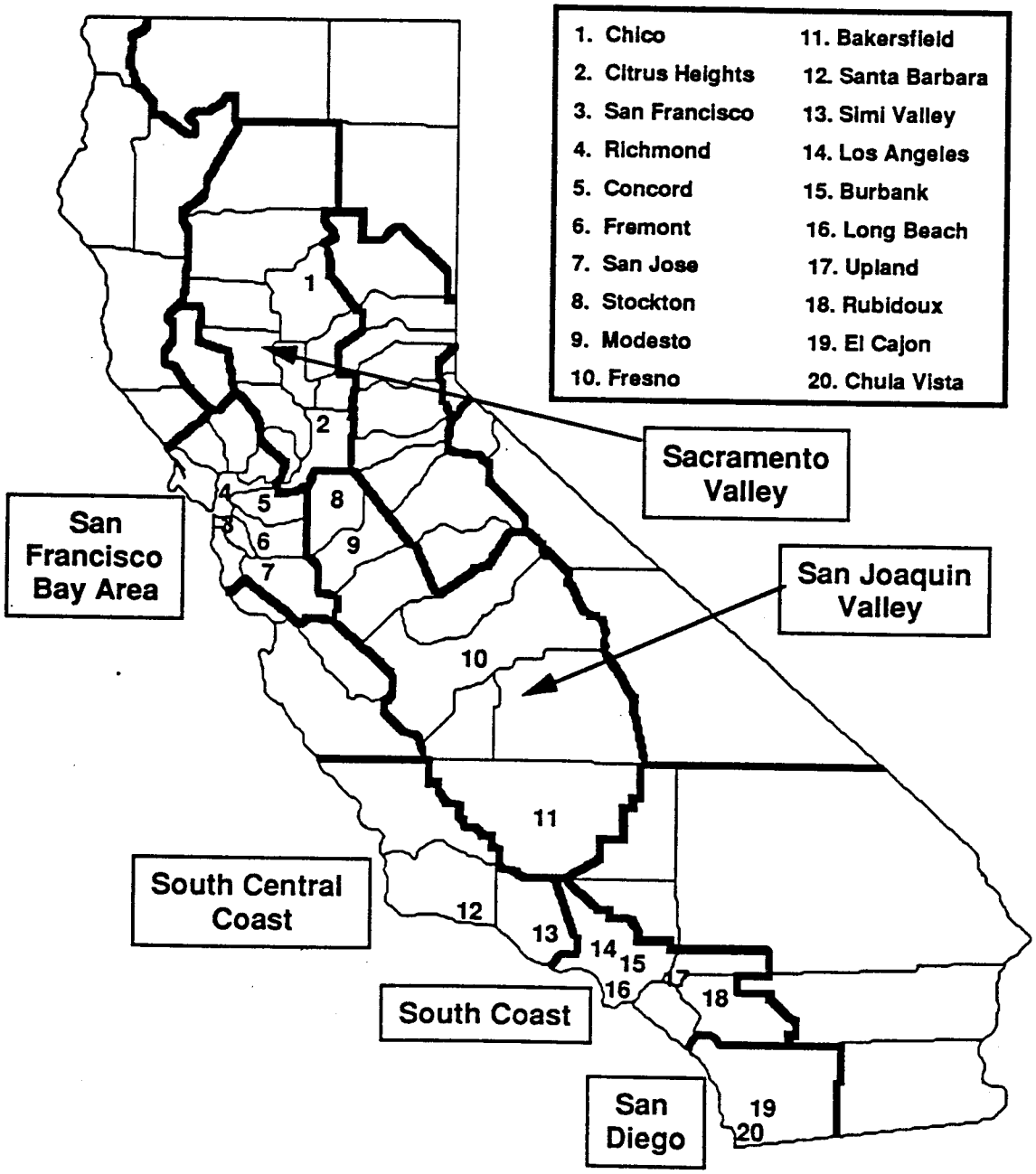
Note: Businesses receiving this notice should post it in an area(s) where it is most likely to be viewed by employees.

APPENDIX G

THE AIR RESOURCES BOARD'S AIR TOXICS MONITORING NETWORK

Appendix G

Air Resources Board's Air Toxics Monitoring Network



APPENDIX H

THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT'S NOTIFICATION PROCEDURES

NOTIFICATION REQUIREMENTS

AIR TOXICS "HOT SPOTS" PROGRAM

	Notification	Risk Reduction	Monitoring
Level 0 (Risk < 10 in a million)	District Summary	None	Routine Updates
Level 1 (Risk: 10 - 99 in a million)	- Letters to Households - Public Meetings	- Voluntary Risk Reduction Audit and Source Reduction - Possible Regulation	Annual Info Updates
Level 2 (Risk: 100 - 490 in a million)	- Letters to Households - Public Meetings	- Mandatory Risk Reduction Audit and Source Reduction - Possible Regulation	Possible Annual Tests
Level 3 (Risk: >500 in a million)	- Letters to Households - Periodic Public Meetings	- Mandatory Risk Reduction Audit and Source Reduction - Probable Regulation	Possible Continuous Emission Monitoring

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

OFFICE MEMORANDUM
July 30, 1991

TO: CHAIRPERSON PAUL COOPER
MEMBERS OF THE BOARD OF DIRECTORS

FROM: AIR POLLUTION CONTROL OFFICER

SUBJECT: DISTRICT POLICY FOR NOTIFICATION UNDER THE AIR TOXICS "HOT SPOTS" ACT

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB2588; Health and Safety Code Section 44300 *et seq.*) requires the operators of several facilities within the Bay Area Air Quality Management District to perform health risk assessments to evaluate the potential health impacts of their routine operations.

Facility operators are required by AB2588 to "provide notice to all exposed persons regarding the results of the health risk assessment prepared pursuant to Section 44361 if, in the judgement of the district, the health risk assessment indicates there is a significant risk associated with emissions from the facility."

The BAAQMD must prepare a set of guidelines to determine which facility operators will be required to provide notification. The statute provides no guidance concerning appropriate levels of response. The *risk management* decision was left to the discretion of the Districts.

The attached report presents the staff's proposal for implementation of the notification requirements of AB 2588.

It should be noted that the District is well in advance of the rest of the state in implementing AB2588. No other District anticipates commencing notification prior to November 1991.

Areas of Consensus

Two public workshops were held to discuss the proposal, on March 15 and April 19. In addition, the proposal was reviewed by the District's Ad Hoc Risk Communication Committee on three occasions.

There are several areas where a consensus exists.

Different levels of impact require different levels of response.

The tiered response approach contained in the proposal is a District innovation, and has received wide support.

The "Hot Spots" program can be an effective tool for risk reduction, by itself.

Many facilities have implemented voluntary reductions, partly due to opportunities identified during the self-examination mandated by the program, and partly due to incentives to reduce the burden of reporting and risk assessment.

The District should not pause at this point, but should continue to develop programs to reduce risks.

The "Risk Reduction" sections of the program are a District innovation, and have received wide support.

Outstanding Issues

The review that the proposal has received resulted in identification of issues where the range of opinion is great enough to preclude consensus.

Inclusion of calculated maximum risks in all notices:

INDUSTRY: Risk numbers should not be presented without adequate context. Industry representatives have argued that it is impossible to adequately provide that context in the format of a simple notice.

ENVIRONMENTAL ACTIVISTS: The statute requires facilities to "provide notice to all exposed persons regarding the results of the health risk assessments..." This means that the maximum risk, and the maps showing the areas of impact, should be included in all notices, and that this is the only information that should be included.

DISTRICT STAFF: We have become convinced that the inclusion of the maximum risk numbers and the maps showing areas of impact would result in considerable anxiety on the part of the resident. We believe that that anxiety may be justified for Level 2 and 3 facilities, and have therefore included it in those notices. We do not believe that the anxiety is justified for Level 1 facilities; we do believe, however, that nieghbors of those facilities should be told that the information is available. We disagree with the interpretation that the statute requires that the notice contain any specific results of the risk assessment to the exlusion of others.

Inclusion of information which puts estimated risks into context:

In order to appreciate the meaning of the risk assessment numbers, it is necessary to read the risk assessments. It is not practical to transmit a copy of the risk assessment to every household, nor to expect the average resident to read or understand it. The content of the notification letter therefore requires decisions about which information to include and which to exclude. The proposed notification letter contains limited information intended to provide some idea of the value and limitation of the risk assessment methodology, and the relevance of the results to daily life.

The range of positions on this issue are:

INDUSTRY: Ideally, the content of the notification package would be totally up to the facility. At a minimum, the facility should be able to put risk assessment results into perspective, and should be able to present the results of other valid risk assessment methodologies.

ENVIRONMENTAL ACTIVISTS: The notification should be as simple as possible. It should contain the quantitative results of the risk assessment, and should graphically depict the impact of each facility. The facility should not be allowed to include any explanatory material, nor should the District include information to "put numbers into perspective."

DISTRICT STAFF: The public should be aware of, but not worried about, the impact of Level 1 facilities. The proposed notice, therefore, lets people know that the risk assessment is available and how to get more information. The notice for the higher-impact facilities (Level 2 & 3) should be more alarming. The proposed notice for these levels of impact therefore adds the actual maximum risk from the risk assessment, and a map showing the area of impact.

Risk values without context do not convey information. The staff believe that the context provided by comparison with relevant risks, and a discussion of the assumptions included in the risk assessment methodology, provide background which is necessary to make decisions concerning the results.

"Hot Spots" program: The Program So Far

January 1989	BAAQMD staff review all facilities with permits (5000 facilities) for inclusion in program.
August 1989	1400 facilities submit Emission Inventory Plans.
November 1989	Emission Inventory Reports due.
April 1989	Last Emission Inventory Reports submitted by facilities.
August 1990	BAAQMD publishes list of 125 facilities required to submit risk assessments (High Priority Facilities).
January 1991	Risk assessments submitted to BAAQMD by to companies. BAAQMD prepares risk assessments for 65 small businesses.
February 1991	Risk assessments made available to the public. Copies sent to DHS for their review.
August 1991	BAAQMD lists facilities required to notify the public about the risk assessment results.
November 1991	Affected households notified by mail.
December 1991	Public meetings held to discuss the risk assessment results.

Features of the Proposed Notification Program
ALL NUMBERS ARE APPROXIMATE!

5000 facilities reviewed for inclusion in toxics inventory

1400 facilities included in toxics inventory

125 facilities required to prepare risk assessments

35 facilities required to provide notice to public

The 125 facilities which prepared risk assessments must meet the following notification requirements:

LEVEL 0 (risk less than 10 in a million)
(90 facilities)

Risk assessment available for public review
Risk Assessment results summarized by District in August 7 report.

LEVEL 1 (risk between 10 in a million and 100 in a million)
(20 facilities)

LEVEL 0 requirements PLUS
Facility must hold one public meeting to discuss the risk assessment results.
Facility must send short notification letter to all households and businesses where the risk exceeds 10 in a million and is less than 100 in a million. The short notification letter tells the homeowner that a risk assessment has been prepared, and tells how to get additional information.

LEVEL 2 (risk between 100 in a million and 500 in a million)
(4 facilities)

LEVEL 1 requirements PLUS
Facility must send long notification letter to all households and businesses where the risk exceeds 100 in a million. The long notification letter tells the homeowner that a risk assessment has been prepared, what the maximum risk is, provides a map showing the location of the high risk and the area where risks exceed 10 in a million, and tells how to get additional information.
Facility must prepare a risk reduction audit. This is a report to the District describing all possible ways to reduce the risk due to the facility's operations.

LEVEL 3 (risk greater than 500 in a million)
(1 facility)

LEVEL 2 requirements PLUS
Facility must hold quarterly public meetings. The purpose of these meetings is to discuss facility efforts to reduce the risk to the community. The meetings may take the form of a community task force which meets publicly.

0007

AIR TOXICS "HOT SPOTS" ACT
NOTIFICATION REQUIREMENTS

STAFF REPORT

0008

Air Toxics "Hot Spots" Act
Notification Requirements

BACKGROUND

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB2588; Health and Safety Code Section 44300 *et seq.*) requires the operators of several facilities within the Bay Area Air Quality Management District to perform health risk assessments to evaluate the potential health impacts of their routine operation.

Facility operators are required by AB2588 to take certain actions after the risk assessments have been completed:

> H&S 44362 (b): Upon approval of the health risk assessment, the operator of the facility shall provide notice to all exposed persons regarding the results of the health risk assessment prepared pursuant to Section 44361 if, in the judgement of the district, the health risk assessment indicates there is a significant risk associated with emissions from the facility. If notice is required under this subdivision, the notice shall include only information concerning significant health risks attributable to the specific facility for which the notice is required. Any notice shall be made in accordance with procedures specified by the district.

The BAAQMD must prepare a set of guidelines to determine which facility operators will be required to provide notification. The statute provides no guidance concerning appropriate levels of response. The *risk management* decision was left to the discretion of the Districts.

Notification of exposed individuals

The proposal prepared by BAAQMD staff is based upon the assumption that different degrees of impact merit different levels of response. In addition, the proposal contains requirements for other actions beyond notification of the public of the results of risk assessments. These actions include requirements for facility operators to prepare risk reduction audits and plans, and for the District to accelerate development of regulations for sources with a major impact. These actions, although not mandated by the statute, are logical extensions. The "Hot Spots" act itself requires that the information developed during the program be utilized for development of control regulations. Risk reduction audits and plans, modeled on similar studies which focus on reduction of generation of hazardous waste, allow facility operators to identify opportunities to reduce those risks voluntarily and economically. As a result, the risk to public health may be reduced in the most economical way possible. If the voluntary reductions do not provide adequate protection, then the audits and plans provide information that the agencies need to develop reasonable and feasible regulations.

District staff have been working with representatives of State agencies. An attempt has been made to make AB2588 notifications meet the requirements of Proposition 65. Any facility which is subject to Proposition 65 must make its own determination whether or not we have been successful. The following issues have been raised:

1. Facilities which have based their risk assessments on future emission levels (due to future-effective regulations or an enforceable

commitment to reduce emissions) may not have to provide notification under the AB2588 program. These facilities are nonetheless subject to Proposition 65 requirements based upon their current emissions.

2. Some public commentors have expressed the opinion that newspaper notices do not meet the Proposition 65 requirement to provide a clear and reasonable warning. This issue is currently the subject of litigation. Facilities which rely upon newspaper warnings may therefore be open to litigation. The proposal requires the operator of a facility with a Level 1 impact or higher to notify, by mail, each household located within the zone of impact. The operator of a facility with a Level 1 impact or higher must have a community meeting.

The operator of a facility with a Level 2 impact or higher will be required to conduct a risk reduction audit, and a plan to reduce risks.

The operator of a facility with a level 3 impact (cancer risk exceeding 500 in a million) must have periodic public meetings to discuss progress in reducing the impact, and will be targeted for regulation by the District.

District actions

The District will prepare a report listing facilities that are required to provide notice to the public under this program. This report will be provided to all high priority facilities, to the Boards of Directors of each county, and to the County Health Departments.

The risk assessment results will be used by District staff to help prioritize facilities and sources for regulation. Source reduction audits and plans will also assist the District in developing its regulatory program--by identifying opportunities for reduction, and by eliminating the need for regulation due to voluntary actions.

Definition of significant health risks

This proposal avoids the use of the term "significant risk." The term is very subjective, and the cause of much unproductive contention. We have instead followed an approach which defines the impact in terms of the degree of appropriate response. The debate can hereafter focus on whether or not the response is appropriate, and not on whether the impact is "significant", "insignificant", or something in between.

AIR TOXICS "HOT SPOTS" ACT

NOTIFICATION REQUIREMENTS

0011

GENERAL REQUIREMENTS AND DEFINITIONS:

This document contains BAAQMD policy regarding compliance with the notification requirements of AB2588, the Air Toxics "Hot Spot" Information and Assessment Act of 1987. This policy applies to all facilities which have been identified as "high priority" facilities pursuant to AB2588. The "affected area" for each degree of impact is the area where the risk falls in the specified range. For example, a facility with a Level 2 degree of impact will have an area where the impact exceeds the threshold of Level 2 impact. This area will be surrounded by a larger area where the impact is Level 1; the facility will not have to meet the Level 2 impact notice requirements for this area, but will have to meet the Level 1 impact notice requirements.

A facility's impact will be reclassified if the operator submits a permit application which will result in a reduction of emissions sufficient to reduce the risk below the relevant criterion. The proposed reduction must occur within two years of the date of submittal of the authority to construct. If the proposed reductions are not achieved on schedule, the permit application will be considered a "knowingly submitted false statement or representation" subject to the penalties in Health and Safety Code Section 44381 (b). Alternatively, the operator may submit a risk assessment which utilizes newly available information (local meteorology, new emission factors from source tests, etc.) which presents a more accurate risk estimate. The operator of a facility which is required to provide periodic notification or hold periodic meetings shall continue to do so until relieved of that requirement, in writing, by the Air Pollution Control Officer.

All requirements [illegible]ctive as of the date that the Board accepts the staff report sum[illegible]ts of the risk assessments. The first notification letter m[illegible]within 90 days of that date.

DEGREE OF IMPACT: LEVEL 0

RESIDENTIAL RISK: less than 10×10^{-6}

Recordkeeping & Monitoring:

No special Recordkeeping requirements. Facilities which are subject to AB2588 (emissions above the "degree of accuracy" threshold) will be required to submit updated operating information periodically. The maximum period between updates will be two years, in conformance with the provisions of the "Hot Spots" Act.

Public Notice

None. The results of any risk assessments performed by or for these companies will be summarized in the BAAQMD's annual report on the Toxic Air Contaminant program.

Risk Reduction

None required due to this program.

DEGREE OF IMPACT: LEVEL 1
RESIDENTIAL RISK: greater than 10 x 10^{-6} and less than 100 x 10^{-6}

Recordkeeping & Monitoring:

Sources of emissions of toxic air contaminants will be required to submit updated operating information on an annual basis. This information will be collected through the District's current program which gathers updated information from facilities with District permits.

Public Notice

The operator of the facility shall mail or otherwise deliver a notification to all households and businesses within the area where the degree of impact is Level 1. The notification shall be delivered at least once in any three-month period. The facility operator shall determine if a substantial non-English speaking population is in the area of impact. If such a population exists, the facility operator shall notify the District, and the District will work with the facility to prepare materials translated materials into appropriate languages.

The notification shall be prepared by the BAAQMD staff, using the format presented in Appendix I. The notification informs the recipient of the availability of the risk assessment, and lists compounds which contribute to risk.

The notification may be accompanied by any documents required to comply with warning requirements pursuant to Proposition 65.

The notification shall be accompanied by a cover letter from the facility. The letter shall not exceed two pages in length, and shall include the following:

Name, address, and phone number of a local company representative who may be contacted by the public for further information.

The following paragraph shall be included in the cover letter accompanying the first notification:

A community meeting will be held at *<time>* on *<date>* to discuss the health risk assessment, and efforts at *<Company name>* to reduce emissions of toxic air contaminants.

If copies of the risk assessment are available locally, indicate the location and provide a contact.

The cover letter should also include a paragraph describing company efforts to reduce risks. One purpose of the periodic notification is to provide the community with periodic reports on the company's progress in risk reduction.

The operator of the facility shall send a copy of the notification package to the District: this copy shall be sent to the District at least two weeks before the package is mailed to affected addresses, and shall be kept in the file with the risk assessment.

The operator of the facility shall hold at least one public meeting, in the evening, at a location convenient for people living in the area of Level 1 impact: the operator shall mail a notice for the public meeting to all households and businesses within the area of Level 1 impact. Notice for the meeting shall be provided by publication in public media announcements which target the area where impact is Level 1 or greater. The meeting shall

be held between two and four weeks following notice. The purpose of the meeting is to provide information regarding the facility's impact on the community, as contained in the risk assessment, as well as past and future efforts to reduce risk.

The operator of the facility shall hold a similar public meeting every two years. The subsequent meetings shall be held after completion of the two-year "Hot Spot" program cycle: the Air Pollution Control Officer will notify the facility of the requirement to hold a meeting.

Risk Reduction

The operator will be encouraged to prepare a voluntary source reduction plan.

If the impact is not reduced to Level 0 within a reasonable period of time the District will investigate regulations. Factors that the Air Pollution Control Officer may take into consideration in determining a reasonable period of time include severity of the impact, and cost and availability of controls. Feasibility and cost effectiveness will be considered in any rules developed.

DEGREE OF IMPACT: LEVEL 2
RESIDENTIAL RISK: greater than 100 x 10^{-6} and less than 500 x 10^{-6}

In addition to complying with all requirements for a Level 1 impact, the operator of the facility shall comply with the following:

Recordkeeping & Monitoring:

The District may adopt regulations requiring annual or quarterly monitoring of key emission points.

Public Notice

The operator of the facility shall deliver a notification and cover letter conforming to the requirements for sources with a Level 1 degree of impact.

The notification shall be prepared by the BAAQMD staff, using the format presented in Appendix I. The notification informs the recipient of the availability of the risk assessment, lists compounds which contribute to risk, and presents the calculated maximum cancer risk.

In addition, the notification shall include a map which identifies areas where the impact is Level 1, and areas where the impact is Level 2. The map should also identify the location of the point of maximum off-site impact.

The operator of the facility shall hold at least one public meeting conforming to the requirements for sources with a Level 1 degree of impact.

Risk Reduction

The operator of the facility will be required to prepare an risk reduction audit. This audit shall be designed to identify all pollution prevention measures which may be applied to the facilities. The audit shall contain information regarding the technical feasibility and cost effectiveness of all identified measures. The audit shall consider at least all of the following source reduction approaches:

Improvement of the maintenance of production equipment.
Improvement of the operation of production equipment, including increased inspection of products and processes and using production control equipment or methods.
Redesign or modification of production process or equipment to minimize use and emission of toxic air contaminants.
Substitution of a nontoxic or less toxic substance for a toxic substance.

In addition to source reduction techniques, the risk reduction audit shall include a discussion of other risk reduction techniques, including:
Improvement of atmospheric dispersion.
Installation of tailpipe emission control devices.
Consideration of alternate locations for operations and equipment.

The operator will be required to prepare a risk reduction plan. The plan shall provide a projected schedule for implementing reasonable risk reduction approaches identified in the risk reduction audit. The plan shall

document the operator's rationale for not implementing any available pollution prevention approach considered.

The District will consider regulation if the operator's plan does not reduce the impact to a Level 0 in a reasonable period of time. Factors that the Air Pollution Control Officer may take into consideration in determining a reasonable period of time include severity of the impact, and cost and availability of controls. Feasibility and cost effectiveness will be considered in any rules developed.

DEGREE OF IMPACT: LEVEL 3
RESIDENTIAL RISK: 500 x 10^{-6} and greater

In addition to complying with all requirements for a Level 2 degree of impact, the operator of the facility shall comply with the following:

Recordkeeping & Monitoring:

The District may require continuous monitoring of operating parameters at key sources. The District may require periodic or continuous stack sampling of key sources.

Public Notice

The operator of the facility shall hold the public meeting required for facilities with a Level 2 degree of impact.

The operator of facility shall hold periodic public meetings. These may take the form of a task force or committee made up of interested parties. Meetings must be held no less frequently than quarterly, beginning the quarter following the general public meeting announcing the results of the risk assessment. The purpose of the meetings will be to discuss progress towards reducing facility impact, and to identify and explore further alternatives. The meetings must be open to the public, and notice shall be provided by publication in public media announcements which target the area where impact exceeds Level 0, as well as by mail to any person who requests to be notified.

Risk Reduction

The operator of the facility will be required to prepare an risk reduction audit. This audit shall be designed to identify all pollution prevention measures which may be applied to the facilities. The audit shall conform to the requirements for facilities with a Level 2 degree of impact.

The operator will be required to prepare a risk reduction plan. The plan shall provide a projected schedule for implementing reasonable risk reduction approaches identified in the risk reduction audit. The plan shall document the operator's rationale for not implementing any available pollution prevention approach considered.

The District will consider adoption of regulations. Regulations will be designed to meet the following standards:

All Available Risk Reduction Techniques (AARRT): A combination of all risk reduction techniques which results in a minimization of the health risks for a facility. AARRT includes all of the following: TBACT, pollution prevention, reasonable dispersion improvements, and consideration of alternate locations within the facility.

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Best Available Control Technology for Potentially Toxic Air Contaminants (TBACT): The most stringent of:

The most effective emission control device or technique which has been successfully utilized for the type of equipment comprising the source; or

The most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising the source; or

Any emission control device or technique determined to be technologically and economically feasible by the APCO; or

Any source reduction technique, including process material substitution or use of a different process, determined to be technologically and economically feasible by the APCO.

APPENDIX 1

SAMPLE NOTIFICATION

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

SHORT LETTER (LEVEL 1 FACILITIES)

<date>

<XYZ Dairy Company> has prepared a health risk assessment for its *<ice cream>* facility at *<A Street, Berkeley>*. A health risk assessment is a document that describes the possible health effects which may result from exposure to routine emissions of toxic air contaminants.

The purpose of this notice is to inform you that the risk assessment has been prepared, and to let you know how to obtain more information. The risk assessment, and this notification, were prepared in order to comply with the requirements of the California Air Toxics "Hot Spot" Information and Assessment Act of 1987.

This notification is being provided because you have a right to know about air pollution in your community. It does not mean that you are in a "Hot Spot".

Most of the calculated cancer risk from this facility comes from *<chocolate, vanilla, and strawberry>*.

The health risk assessment itself is a report which describes in detail the basis for the risk estimate. You may review the risk assessment at the offices of the Bay Area Air Quality Management District by making an appointment with the Toxics Section.

The District has many programs to reduce the public's exposure to toxic air contaminants. To find out more about these programs, please write or call the Toxics Section.

You may receive similar notices from other facilities in your area.

If you are operating a business at this address, we recommend that you post this notice where your employees can see it.

FOR MORE INFORMATION:

Toxics Section
Bay Area Air Quality Management District
939 Ellis Street, San Francisco, CA 94109
(415) 771-6000

SAMPLE

0020

939 ELLIS STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 771-6000 • FAX (415) 928-8560

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

LONG LETTER (LEVEL 2 & 3 FACILITIES)

<date>

<XYZ Dairy Company> has prepared a health risk assessment for its *<ice cream>* facility at *<A Street, Berkeley>*. A health risk assessment is a document that describes the possible health effects which may result from exposure to routine emissions of toxic air contaminants.

The purpose of this notice is to inform you that the risk assessment has been prepared, and to let you know how to obtain more information. The risk assessment, and this notification, were prepared in order to comply with the requirements of the California Air Toxics "Hot Spot" Information and Assessment Act of 1987.

This notification is being provided because you have a right to know about air pollution in your community. It does not mean that you are in a "Hot Spot".

Most of the calculated cancer risk from this facility comes from *<chocolate, vanilla, and strawberry>*.

The cancer and other health risks have been calculated using procedures required by the Bay Area Air Quality Management District and reviewed by the State Department of Health Services. The District acknowledges that there are other methods for assessing and describing risks that possess merit. The calculated maximum cancer risk resulting from routine emissions of chemicals to the air from this facility is *<200>* in a million.

The risk to you due to these emissions is actually less, and may even be as low as zero. This is so because the calculated number is for a person who lives for 24 hours a day, for 70 years, at the point where the impact is greatest. Real populations are not exposed in this way and thus have lower risks.

In order to put the risk number into perspective, here are some other numbers for comparison:

1) The risk of cancer in the general population is 1 in 4, or 250,000 in a million.

2) The risk of cancer from the background concentration of chemicals in the air, calculated using the same procedure used in the risk assessment, is about 700 in a million.

Enclosed is a map showing the calculated risks from *<XYZ Dairy Company>* in the area.

The health risk assessment itself is a report which describes in detail the basis for the risk estimate. You may review the risk assessment at the offices of the Bay Area Air Quality Management District by making an appointment with the Toxics Section.

SAMPLE · 0021

939 ELLIS STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 771-6000 • FAX (415) 928-8560

The District has many programs to reduce the public's exposure to toxic air contaminants. To find out more about these programs, please write or call the Toxics Section.

You may receive similar notices from other facilities in your area.

If you are operating a business at this address, we recommend that you post this notice where your employees can see it.

FOR MORE INFORMATION:

Toxics Section
Bay Area Air Quality Management District
939 Ellis Street, San Francisco, CA 94109
(415) 771-6000

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APPENDIX I

SAMPLE INDUSTRYWIDE NOTIFICATION MESSAGE (NONCANCER HEALTH RISK)

Appendix I

Sample Industrywide Notification Message (chronic noncancer health risk)

Public Notice

(Exposure to Toxic Air Pollutants)

This notice informs you that you may be exposed to toxic air pollutants. State law requires that the facilities listed below notify you of possible health risks resulting from routine emissions of toxic air pollutants.

Facility A Address	**Facility B Address**	**Facility C Address**	**Facility D Address**	**Facility E Address**
Facility F Address	**Facility G Address**	**Facility H Address**	**Facility I Address**	**Facility J Address**

These facilities ***[use and]*** emit ***[emitted substance(s)]*** into the air ***[to produce product]***. The emitted substances are toxic air pollutants.

The [***district name***] has written a report used to estimate possible health effects from exposure to toxic air pollutants released by each of the listed facilities. The report has been prepared with the help of state health experts.

Based on the report, exposure to emissions from any one of the listed facilities may increase the possibility that you experience ***[adverse health effect(s) ex. respiratory irritation].*** This statement is based on assumptions designed to protect sensitive people in the population. These assumptions include. 1) That you will be exposed for a long time (years). 2) That you live within approximately ***[number]*** feet of any one of the listed facilities. If these conditions do not apply to you, your risk is likely to be lower. This assessment does not consider exposure to other toxic air pollutants besides those released by any one of the listed facilities.

The ***[district name]*** and the state are taking ***[many]*** steps to reduce emissions of toxic air pollutants. If you have any questions, please call the district at the number provided below.

If you have any questions concerning this notice or want to obtain more information, please call the *[district name and address]* at *[district phone number]*.

APPENDIX J

SAMPLE CUSTOM NOTIFICATION LETTER (CARCINOGENIC RISK)

Appendix J

Sample Custom Notification Letter (carcinogenic risk)

Dear Neighbor:

This letter is in response to your request for more information concerning your possible exposure to toxic air pollutants. State law requires that people be notified of possible health risks resulting from routine emissions of toxic air pollutants. You requested more detailed information concerning you exposure to toxic air pollutants emitted by ***[facility name]*** which is located at ***[facility address]***.

As described in the newspaper notice, ***[facility name] [uses and]*** emits ***[emitted substance(s)]*** into the air ***[to produce product].*** The emitted substances are toxic air pollutants and exposure may increase your risk of getting cancer.

The ***[district name]*** has written a report which can be used to estimate possible health effects from exposure to toxic air pollutants released by ***[facility name].*** The report has been reviewed by state health experts.

Based on the report, exposure to emissions from ***[facility name]*** may increase your risk of cancer by adding ***[number]*** chance(s) in ***[number]***. The estimate is based on assumptions designed to protect sensitive people in the population. These assumptions are as follows. 1) That you will be exposed to the emissions for 70 years. 2) That you live approximately ***[number]*** feet of ***[facility name]***. If these conditions do not apply to you, your risk is likely to be lower. This estimate does not consider past exposures or exposure to other toxic air pollutants besides those released by ***[facility name]***.

To give you an idea of how the health impact from ***[facility name]*** fits in with the current air pollution problems. we can provide the following comments. The cars we drive, factories, and many of the home products that we use contribute to our air pollution problems. On average, in California, the risk from currently measured air toxics may increase your risk of cancer by adding approximately ***[number]*** chance(s) in ***[number]***. While this is only a rough estimate, we hope that it helps you to put ***[facility name]*** contribution to risk into perspective.

The [***district name***] and the state are taking ***[many]*** steps to reduce emissions of toxic air pollutants. If you have questions, please call the district at the number provided below. In addition, we have enclosed additional information which may help to answer your questions on the Air Toxics "Hot Spots" Program as well as health risk assessment.

If you have any questions concerning this letter, please call the [district name and address] at [district phone number].