GEN 55 (REV.6/

Office Memorandum

(Name and Location)	DATE
Listed	March 12, 1979
(Name and Location)	REFERENCE NO.
W. Whaley and C. J. Schaefer	CWW-74-79,CJS-34-

L. Tejml
A. Dunn
E. Hackfeld
D. Luke
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PLAINTIFF'S EXHIBIT
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CEL-155

Review of Industrial Hygiene Administrative Procedures

The policy statement in the Plant Industrial Hygiene Administrative Procedures (PIHAP) calls for a review of the procedures at the end of 1978 and at least every two years thereafter. The purpose of the reviews is to:

1. Insure the Industrial Hygiene Program is being carried out in accordance with these procedures.

2. Update, as necessary, to conform with new laws, regulations, and company guidelines.

3. Modify areas of responsibility if desirable.

The first review has been completed. Major policies have been substantially followed. There were some relatively minor deviations and these are being corrected.

As expected, after one year's experience behind us operating under the procedures, we do have some suggested changes. These changes are included in the attached modified PIHAP. Changes on a single line are indicated by an arrow in the margin pointing to that line. Changes to more than one line are indicated by an arrow pointing to brackets around the modified section.

Please review the suggested changes and return comments to C. J. Schaefer. Probably the easiest way to review the changes is to pull out the original I.H.A.P. and compare only the suggested changes. Many of the changes are minor. The more major suggested changes are in the following sections.

Employee Notification of Monitoring Results

Employee Notification of Toxicological Test Results

Specific Assignment of Responsibilities

C. W. Whaley

C. J. Schaefer

CWW/CJS/las
cc:
D. G. Bremer
C. D. Barrett - Dallas
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G. Vos - Dallas

BY: Technical Department	PLANT INDUSTRIAL HYGIENE ADMINISTRATIVE PROGRAM	DEPT. Plant General
DATE: 3-8-78		NO. I-5

PURPOSE:

To outline the procedures and responsibilities for implementing and conducting an effective plant Industrial Hygiene Program.

POLICY:

Bay City Plant management is committed to the safety and good health of its employees. All feasible means will be utilized to prevent significant employee exposure to industrial chemicals. This objective will be accomplished through the following means:

1. Engineering controls are preferred.
2. Administrative controls where practical.
3. Temporary use of personal protective devices where necessary.
4. Monitoring of chemical levels in the work place and counseling of employees in respect to the levels.
5. Training for employees in respect to the chemicals and its effects on them.
6. Health Monitoring Program
7. Modification or repairs needed to reduce potential for exposure to a practical level will be given Safety Hazard priority.

The Coordinator of Industrial Hygiene/Toxicology and Environmental Affairs is responsible to the Bay City Plant for the overall planning, direction and coordination of the environmental maintenance and industrial hygiene/toxicology efforts. Under the direction of the Coordinator, the Plant Industrial Hygienist is responsible for developing and implementing a plant-wide program to identify and evaluate chemical and other environmental exposures in the workplace which may adversely affect the health, well-being and/or productivity of employees. He participates with the Coordinator in recommending appropriate engineering and administrative controls and developing and coordinating programs to insure timely compliance with applicable regulations and a safe work environment.

At the end of 1978 and thereafter at least every two years, these administrative procedures will be reviewed to:

1. Insure the Industrial Hygiene Program is being carried out in accordance with these procedures.
2. Update, as necessary, to conform with new laws, regulations, and company guidelines.
3. Modify areas of responsibility if desirable.

The review will be conducted by the Coordinator of Industrial Hygiene/Toxicology and Environmental Affairs with assistance from the Company and Plant Industrial Hygienists. Recommended changes are subject to the approval of the Plant Manager and his staff.

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PROCEDURE:

I. Initial Investigation of Airborne Contaminants

The objective of the initial investigation is to determine worst case conditions. The Plant Industrial Hygienist (with input from the Company Industrial Hygienist, Safety Supervisor, and owning supervision) will establish priorities and schedules for monitoring chemicals.

An initial investigation will be made for each substance that in the judgement of the Plant Industrial Hygienist (and Company Industrial Hygienist) poses a potential health hazard to the employee. Occasionally, the initial determination may not require actual air monitoring. In such cases, the logic used in deciding not to monitor will be documented. Actual monitoring and analysis of samples will be conducted by the Plant Industrial Hygienist or under his direct supervision. The Plant Industrial Hygienist (assisted by the Company Industrial Hygienist) will specify both the type and number of samples to be obtained. Generally, a minimum of three long-term time-weighted-average (TWA)samples will be obtained in each operating, maintenance, or laboratory area where there is a potential for employee exposure. The samples should be:

1. An area sample believed to represent the highest potential concentration.
2. An eight-hour personal sample of the personnel involved with the highest potential exposure taken under normal operating conditions.
3. An eight-hour personal sample taken during unusual or upset conditions (unit turnarounds, etc.) of the person believed to have the highest exposure potential.

area

In addition, a series of short-term/samples (minimum number of 5 to 7) should be obtained for contaminants with assigned ceiling values and for other contaminants that pose acute exposure hazards. The actual number of samples required in the initial investigation will vary considerably depending on the potential hazard of the contaminant and the conditions of use.

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A written record of each "initial determination" must be completed by the Plant Industrial Hygienist and should include the following:

1. Indsutrial Hygiene Monitoring Form (attached)
2. If air monitoring was not performed, the logic used in deciding not to monitor should be included along with a description of the work area and exposure conditions. Determinations made without monitoring will be reviewed by the owning Superintendent, Coordinator of Industrial Hygiene/Toxicology and Environmental Affairs and Company Industrial Hygienist.
3. A report of all employee complaints.

To insure that a factual picture of the entire monitoring situation is documented, all the information called for on the Industrial Hygiene Monitoring Form must be recorded. If the initial determination is positive, subsequent measurements must be appended to the original report. In certain situations, to obtain additional documentation, photographs may be taken in the area being monitored to identify where samples were taken and the location and appearance of sampling equipment.

II. Frequency of Analysis

Normally, if the results of the initial investigation are negative, no additional measurements are necessary during the next 12 months (and possibly even longer) unless there is a change in process, production, weather conditions, or control measurements, which would invalidate original conclusions. Since many of our operations are located outside, seasonal variations may significantly affect sampling results and require more frequent than annual follow-up sampling. Follow-up sampling will be required at least on an annual basis for certain highly toxic contaminants even if the initial sampling results are negative.

Owning supervision will be responsible for informing the Industrial Hygienist of changes in process, production, weather, or control measures that could significantly change the potential for airborne contaminants. The "initial investigation" should be repeated immediately under the new conditions. It should be emphasized that since there are numerous conditions that affect sampling results, the monitoring schedule will rely heavily on the professional judgement of the Plant and Company Industrial Hygienists.

If the results of the initial investigation indicate that the employee may be exposed to a potential health hazard, the Plant Industrial Hygienist will initiate additional sampling studies along with corrective action to alleviate the potential health hazard. The Company Industrial Hygienist will be directly involved in specifying additional sampling and in developing and implementing necessary control procedures.

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III. Monitoring To Identify Average Employee Exposure During Routine Operations

Since the objective of the initial investigation is to identify "worst case conditions", it is essential for subsequent monitoring to identify the exposure of the average employee while performing routine day to day operations. This is important for epidemiological research purposes as well as for accurately determining the exposure conditions of all of our employees; otherwise our exposure records will be incomplete and as such present an unfounded "incriminating" self-indictment while not giving an accurate picture of long-term exposure conditions. The number and type of samples required to establish "average" exposure conditions will vary considerably depending on the chemical operation and will be specified by the Plant Industrial Hygienist (assisted by the Company Industrial Hygienist). Generally "average" exposure conditions should be approximated by at least three 8 hour TWA samples.

IV. Record Keeping

The primary OSHA file will be maintained by the Safety Supervisor and will consist of the following:

1. All initial and follow-up investigations for airborne contaminants. The Industrial Hygiene Monitoring Form and other related documentation should be filed by both chemical name for each operating area and by the names of exposed employees. The latter file should be maintained separately from the other personnel files.
2. Tests of efficiencies of mechanical ventilation systems. (Copies of ventilation tests should also be maintained in Plant Engineering files.)

A major objective of the OSHA file is to establish an exposure history for each employee who has a potential for exposure.

If the measurement shows that exposure exceeds acceptable limits as defined by the Company Industrial Hygienist, the names of all employees who were potentially exposed at the same time should be recorded on the report form.

All official file records are to be maintained for at least 30 years. (New OSHA regulations may extend the time period.) The exposure records will be available to employees for review.

All original measurements and Industrial Hygiene Monitoring Forms are classed as official records and will be maintained in the Plant Industrial Hygienist's file for at least 30 years.

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V. Employee Notification of Monitoring Results

The Plant Industrial Hygienist will disseminate completed survey results to the Safety Supervisor, other management personnel, and the Company Industrial Hygienist. Employee(s) in the work place will be informed of individual sampling results via supervision and the monitoring form. Management will not normally be informed of each individual sampling result (except in cases of deviation from acceptable exposure) until the overall sampling survey has been completed.

Communication of individual sampling results and survey results to employee(s) in the work area should be done as soon as possible but no later than five days after the results have been completed.

In cases of deviation from acceptable exposure (as defined by the Plant and Company Industrial Hygienist), the line management involved, Plant Manager, Safety Supervisor, Company Industrial Hygienist and the employee will be immediately informed of individual sampling results. In such cases, immediate corrective action will be taken and an investigation conducted at the scene of exposure at least by the next working day following the exposure. The line management involved, Plant Manager, Safety Supervisor, and Plant Industrial Hygienist will conduct the investigation.

Monitoring results will be communicated to the employee(s) as follows:

Copies of all completed Industrial Hygiene Monitoring Forms for each survey will be disseminated individually to the Safety Supervisor and

supervisor of the area monitored. In addition, upon completion of the survey, monitoring data will be summarized and a written interpretative statement (i.e., tell the employees what the numbers mean) will be provided by the Plant Industrial Hygienist. Insuring proper communication of the monitoring results to the employee(s) in the work area is the responsibility of the Safety Supervisor or his designee. Notification will normally be accomplished by his designee, the Plant Industrial Hygienist, orally reviewing the Industrial Hygiene Monitoring Forms and/or survey summary letter with the owning supervisor. It will then be the responsibility of the owning supervisor to insure the affected employee(s) are notified by their immediate supervisor. The employee(s) notification should include an oral review of the meaning and significance of the results. The Safety and owning supervisor may request the Plant Industrial Hygienist to assist in communicating results to employees.

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VI. Employee Notification of Toxicological Test Results

Any new toxicological data, either from Celanese sponsored studies or literature research, shall be reviewed by the Company Toxicological Review Committee for validity and risk assessment. Employee notification shall be based on the recommendation of this committee. Generally, toxicity test results should be communicated to employees within 30 days after review by the Toxicological Review Committee. Company Employee Relations is responsible for coordinating employee and contractor notification of test results company wide.

If a chemical poses an imminent hazard to employee health, the actual exposure levels will be established by the Plant Industrial Hygienist. Work practices related to that chemical will be immediately reviewed (and revised as deemed necessary) by line management, Safety Supervisor, Plant and Company Industrial Hygienists and approved by the Plant Staff. Appropriate action will be taken to reduce exposure to an absolute minimum. The Toxicological Review Committee, with plant input, will be responsible for setting safe exposure limits.

When a chemical substance is identified as a significant risk, employees will be informed of such findings and of special programs to be initiated within the plant to protect employees from the possible hazard. These efforts will include review and/or revision of established work practices, protective equipment, and specific actions as may be required to assure safe working conditions from the standpoint of process operation and associated facilities.

The actual employee notification procedure and responsibilities are listed below.

1. The Plant Safety Supervisor is responsible for employee notification of toxicity test results. He/she shall coordinate the notification process including 1) setting the data for notification, and 2) insuring a plant communique for employee notification is prepared to supplement the Company prepared communique.
2. Upon request from the Safety Supervisor, the Plant Industrial Hygienist will prepare a communique on testing results to supplement and personalize the Chemical Company interpretive statement and backup "questions and answers". The Company statement must be included verbatim and the plant statement will be additional information to comment on local exposure and any plans for additional monitoring, protective equipment, engineering, operational or procedural changes, etc. to reduce exposure.
3. The Plant Staff must approve the plant prepared statement prior to the information being communicated to employees.
4. After the plant prepared statement is approved by the Plant Staff the Plant Industrial Hygienist will meet with the staff, all superintendents, and the Safety Supervisor to review and explain the tests results to the superintendents.
5. The superintendents will inform their supervisors and the information will be passed on to all employees through supervision. Any questions that cannot be readily answered should be directed back to the Coordinator of Industrial Hygiene/Toxicology and Environmental Affairs and the Plant Industrial Hygienist. Enough copies of the communique will be provided to the superintendents so that all supervisors (including first line) can be provided a copy to aid them in informing their employees.

6. The official major contractor notification is the customer/contractor/terminals letter from the Company Manager Industrial Hygiene and Toxicology. However, the Plant Industrial Hygienist will also provide written supplemental information to the Celanese representative who receives the Company notification statement for major contractors such as Arthur Brothers and contract draftsmen. The Plant Industrial Hygienist upon request will help explain the information to the management of the major contractors. The information will be passed on to all major contractor employees through contractor supervision.
7. The Director of Personnel Administration and the Manager of Industrial Hygiene/Toxicology should always receive a file copy of the plant prepared communique. Also other CCC locations should be copied.

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VII. Health Monitoring Program

The Company and Plant Industrial Hygienists will recommend health monitoring programs for exposed employees to the Company Medical Director. The Company and Plant Industrial Hygienists are responsible for follow-up to insure that a recommendation is received from the Company Medical Director.

The Plant Industrial Relations Department is responsible for insuring that Company recommended medical exam programs are carried out. The Plant Safety Supervisor is responsible for coordinating the Plant Health Monitoring Program.

VIII. Training

Coordinating and scheduling the training of employees in safe handling of chemicals will be primarily the responsibility of the Safety Supervisor. The Coordinator of Industrial Hygiene/Toxicoloty and Environmental Affairs is responsible for informing the Safety Supervisor of the requirements and timing for Industrial Hygiene related training. Line management will play a major role in the actual training. The Plant and Company Industrial Hygienists will assist by providing specialized training material covering such areas as basic principles of toxicology, understanding environmental monitoring programs, special health hazards (such as carcinogens and mutagens) and chemical safe handling procedures. Employees will be made aware of correct procedures for handling chemical spills and information contained in the Material Safety Data Sheets (including symptoms of over-exposure and first aid procedures).

Such training material will normally be presented to the employees in the regular and mini-safety meetings. The Safety Supervisor or Unit and Maintenance Supervision may request the Plant or Company Industrial Hygienist to participate directly in the training sessions. In addition, the Industrial Hygienist will regularly conduct an Industrial Hygiene class for the BOP training sessions. Maintenance and Laboratory supervision will be notified far enough in advance by the Training Coordinator so that their new employees can attend these sessions.

IX. Toxic Substances Control Act (TSCA)

All compliance activities associated with TSCA will be coordinated by the Plant Industrial Hygienist. The Plant TSCA Substantial Risk Reporting Procedure is part of the Plant Policy and Procedures Manual.

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X. Hazardous Chemical Control

The Plant Industrial Hygienist will be responsible for:

1. Performing an industrial hygiene review of all *new chemicals prior to the chemicals being introduced into the plants.
2. Compiling toxicological information on all chemicals.
3. Coordinating hazardous chemical labeling systems.

Purchasing personnel will be responsible for alerting the Industrial Hygienist before a new chemical is ordered for the plant. In addition Unit Supervisors, Laboratory Supervision, and Maintenance Foremen are responsible for alerting (well in advance where practical) the Industrial Hygienist that new chemicals are to be used.

Prior to purchase, physical, chemical, and toxicological data on new chemicals will be reviewed by the Plant Industrial Hygienist in sufficient detail to ensure that potential hazards associated with their use can be evaluated and adequate safeguards can be established to allow safe handling, use, and disposal. Safety data sheets should be obtained prior to purchase of any new chemicals.

A Company program called Hazard Review of Purchased Chemicals will go into effect July 1, 1978 and will be under the direction of the Chemical Company Manager, Industrial Hygiene and Toxicology. As part of the program, an approved list of chemicals and materials will be developed by the Company Industrial Hygienist with assistance from the plants and the Corporate Medical Department and approved by the Company Toxicological Review Committee. The list will be updated monthly. No new chemical will be approved for purchase or appear on the approved list unless it is listed in the Inventory List authorized under the Toxic Substance Control Act of 1977.

The Plant Industrial Hygienist will be responsible to insure that all new chemicals he approves are inputted to the list. Any new chemical which has the potential for posing a serious health risk due to its carcinogenicity, mutagenicity, or teratogenicity must be approved by the Company Toxicological Review Committee. The committee will act on request within 15 days of receipt.

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*Chemicals purchased in small quantities for research and laboratory use will be excluded from the control procedures. A facility manager or his designee can grant temporary approval of a chemical or material in an emergency to avoid a critical process outage. Written notification of such exceptions must be sent to the Company Industrial Hygienist within 5 days. The approving authority in the two exceptions listed above is responsible for obtaining enough information on the material to insure its safe use.

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XI. Contacts With Regulatory Agencies

Plant initiated contacts with regulatory agencies should have prior approval by the Company Industrial Hygienist and legal counsel. All information sent to regulatory agencies will be reviewed and approved by the Law Department. Confidentiality disclaimers should be included for any confidential technical process unit information.

XII. Review of Process Changes and New Processes

On all RFA's the Plant Industrial Hygienist (assisted by the Company Industrial Hygienist) will review new designs and process changes and make recommendations pertaining to:

1. Specific equipment and design detail
2. Special protective equipment required
3. Necessary Monitoring

to limit employee exposure to acceptable levels. This review and recommendations should be completed prior to funds approval so that necessary funds can be included to cover the recommended items.

On all RFS's, it is the responsibility of the process design engineer, project engineer, and unit supervisor to determine if a likelihood of increased exposure exists and, if so, secure the input and approval of the Industrial Hygienist prior to proceeding with a new installation.

XIII. Specific Assignment of Responsibilities

1. Technical Department

A. Responsible for industrial hygiene program development and implementation.
B. Establish priorities for monitoring chemical exposures.
C. Monitor airborne chemicals in the plant.
D. Interpret monitoring results (assisted by Company Industrial Hygienist) and report results to supervision and plant management.
E. Coordinate plant compliance activities associated with TSCA.
F. Recommend health monitoring programs for exposed employees and assist Safety Supervisor in implementation of the Health Monitoring Program.
G. Hazardous chemical review and toxicology.
H. Assist Safety and Line Management in training.
I. Coordinate OSHA compliance with employee exposure to toxic chemicals.
J. Recommend procedures for controlling occupational health hazards (assisted by Company Industrial Hygienist).

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K. Coordinate between Celanese and contractors in matters dealing with employee health related to chemical exposure.
L. Review of new designs and process changes from Industrial Hygiene viewpoint.
M. Maintain complete files of all determinations, calculations relating to employee exposure or potential for exposure.
N. Additional Industrial Hygiene responsibilities can be found in the Industrial Hygienist's job description.
O. Assist in employee notification of toxicity test results.

2. Safety Department

A. Coordinate and administer the Health Monitoring Program.
B. Coordinate employee training in Industrial Hygiene area.
C. Maintain OSHA records of chemical exposures.
D. Assist in establishing monitoring priorities.
E. Assist Line Management in insuring that recommended personnel protective equipment including respirators are used and maintained proly.
F. Ventilation system checks.
G. Coordinate employee notification of toxicity test results.

3. Line Management

A. Supervision will be responsible for counseling employees on monitoring results and how it affects the employees.
B. Assist in establishing monitoring priorities.
C. Inform the Industrial Hygienist of the possible need for special sampling due to planned operational or process changes or upset conditions that could significantly change the potential for airborne contaminants. Initiate corrective action:

1.)Short term administrative action to alleviate employee exposure and enforcement of same.
2.)Long term engineering requests to minimize exposures to come into compliance.

D. Insure employee use of recommended personal protective equipment.
E. Follow Industrial Hygienist guidance to insure OSHA compliance with employee exposure to toxic chemicals.
F. Enforce and help develop any administrative controls required to minimize employee exposure.
G. Using official information provided, inform employees of toxicity test results.
H. Notify Plant Industrial Hygienist of plans to purchase new chemidals so toxicity data can be obtained.

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XIV. Potable Water System

Insuring compliance sampling is conducted on potable water, maintaining all required regulatory records dealing with the system and assure

CELANESE
CHEMICAL COMPANY
BAY CITY PLANT

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compliance with appropriate federal and state regulations dealing with potable water systems will be an Environmental Maintenance function.

Line management is responsible for maintaining the potable water system and associated equipment in good mechanical condition within their area of responsibility. The Utility Department is responsible for the operation of the well and the main potable water supply system.

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C. J. Schaefer and C. W. Whaley - Bay City	CJS-55-78, CWW-25-78

*Mr. E. L. Tejml
Mr. D. H. Miller
Mr. K. A. Dunn
Mr. W. F. Soward
Mr. L. E. Hackfeld
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Bay City Plant Industrial
Hygiene Administrative Procedures

Attached are the finalized Industrial Hygiene Administrative Procedures for the Bay City Plant. The procedures incorporate the changes agreed on at our 2-21-78 review meeting.

In addition to conform with Company policy, we have included the changes (circulated on 2-28-78) pertaining to Hazardous Chemical Control and Employee Notification of Toxicological Test Results.

You will be furnished adequate copies to pass down and explain to all Policy and Procedures Manual holders in your departments.

C. W. Whaley

C. J. Schaefer

CJS/CWW/las

cc: Mr. J. M. Ramey - NYO
Mr. R. B. Miller - NYO
Mr. Dave Barrett - CCCTC
Mr. J. W. Dunn - CLP
Mr. W. H. Meyer - Bishop
Mr. W. H. Tuke - Pampa

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I - MANAGEMENT PROCEDURES

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III. Monitoring To Identify Average Employee Exposure During Routine Operations

Since the objective of the initial investigation is to identify "worst case conditions", it is essential for subsequent monitoring to identify the exposure of the average employee while performing routine day to day operations. This is important for epidemiological research purposes as well as for accurately determining the exposure conditions of all of our employees; otherwise our exposure records will be incomplete and as such present an unfounded "incriminating" self-indictment while not giving an accurate picture of long-term exposure conditions. The number and type of samples required to establish "average" exposure conditions will vary considerably depending on the chemical operation and will be specified by the Plant Industrial Hygienist (assisted by the Company Industrial Hygienist). Generally "average" exposure conditions should be approximated by at least three 8 hour TWA samples.

IV. Record Keeping

The primary OSHA file will be maintained by the Safety Supervisor and will consist of the following:

1. All initial and follow-up investigations for airborne contaminants. The Industrial Hygiene Monitoring Form and other related documentation should be filed by both chemical name for each operating area and by the names of exposed employees. The latter file should be maintained separately from the other personnel files.
2. Tests of efficiencies of mechanical ventilation systems. (Copies of ventilation tests should also be maintained in Plant Engineering files.)

A major objective of the OSHA file is to establish an exposure history for each employee who has a potential for exposure.

If the measurement shows that exposure exceeds acceptable limits as defined by the Company Industrial Hygienist, the names of all employees who were potentially exposed at the same time should be recorded on the report form.

All official file records are to be maintained for at least 30 years. (New OSHA regulations may extend the time period.) The exposure records will be available to employees for review.

All original measurements and Industrial Hygiene Monitoring Forms are classed as official records and will be maintained in the Plant Industrial Hygienist's file for at least 30 years.

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V. Employee Notification of Monitoring Results

The Plant Industrial Hygienist will disseminate completed survey results to the Safety Supervisor, other management personnel, and the Company Industrial Hygienist. Employee(s) in the work area and management will not normally be informed of each individual sampling result (except in cases of deviation from acceptable exposure) until the overall sampling survey has been completed.

Communication of survey results to employee(s) in the work areas should be done as soon as possible but no later than five days after the survey has been completed.

In cases of deviation from acceptable exposure (as defined by the Plant and Company Industrial Hygienist), the line management involved, Plant Manager, Safety Supervisor, Company Industrial Hygienist and the employee will be immediately informed of individual sampling results. In such cases, immediate corrective action will be taken and an investigation conducted at the scene of exposure at least by the next working day following the exposure. The line management involved, Plant Manager, Safety Supervisor, and Plant Industrial Hygienist will conduct the investigation.

Monitoring results will be communicated to the employee(s) as follows: Copies of all completed Industrial Hygiene Monitoring Forms for each survey will be disseminated in a package to the Safety Supervisor and supervisor of the area monitored. The monitoring forms will be accompanied by a written interpretative statement, provided by the Plant Industrial Hygienist, of the survey results (i.e., tell the employees what the numbers mean). Insuring proper communication of monitoring results to employee(s) in the work area is the responsibility of the Safety Supervisor or his designee. Notification will normally be accomplished by his designee, the Plant Industrial Hygienist, orally reviewing the Industrial Hygiene Monitoring Forms with the owning supervisor. It will then be the responsibility of the owning supervisor to insure the affected employee(s) are notified by their immediate supervisor. The employee(s) notification should include an oral review of the meaning and significance of the results. The Safety and owning supervisor may request the Plant Industrial Hygienist to assist in communicating results to employees.

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Extreme care must be exercised to prevent false "positive" or false "negative" results to avoid unduly alarming employees and loss of program credibility and effectiveness due to bad results or transient conditions. The Industrial Hygienist's written comments and the Supervisors' oral reviews should address validity of the analysis, whether or not the sample was truly representative of the work place environment; the reason for the exposure---whether or not it is a simple excursion due to equipment failure or is an inherent process design problem; and, most important, assess the seriousness of the problem and make sure proper corrective action is taken. In reviewing sampling results, the major emphasis should be in interpreting the meaning of the sampling results and not on the "raw" sampling data.

It should be emphasized that employees will be told of the results of any completed surveys of exposure to airborne contaminants whether positive or negative.

VI. Employee Notification of Toxicological Test Results

Any new toxicological data, either from Celanese sponsored studies or literature research, should be reviewed by the Company Toxicological Review Committee for validity and risk assessment. Employee notification should be based on the recommendation of this committee. When a particular toxicological test shows that a chemical may pose a potential danger to employees, such information will be conveyed to all employees whose duties may place them in reasonable proximity to the substance. The intent is that such information will be conveyed as soon as possible after receipt of valid test results from an outside testing laboratory or from other reliable sources such as literature searches and other industry reports. In addition, corrective action planned to reduce employee exposure and risk will be communicated to employees. The time from discovery to disclosure is often set by Federal Regulations but should not exceed 30 days after review by the Company Toxicological Review Committee.

If a chemical poses an imminent hazard to employee health, the actual exposure levels will be established by the plant Industrial Hygienist. Work practices related to that chemical will be immediately reviewed (and revised as deemed necessary) by line management, Safety Supervisor, Plant and Company Industrial Hygienists and approved by the Plant Staff. Appropriate action will be taken to reduce exposure to an absolute minimum. The Toxicological Review Committee will be responsible for setting safe exposure limits.

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When a chemical substance is identified as a significant risk, employees will be informed of such findings and of special programs to be initiated within the plant to protect employees from the possible hazard. (Insuring employee notification is the responsibility of the Safety Supervisor.) These efforts will include review and/or revision of established work practices, protective equipment, and specific actions as may be required to assure safe working conditions from the standpoint of process operation and associated facilities.

VII. Medical Surveillance

The Company and Plant Industrial Hygienists will recommend medical surveillance programs for exposed employees to the Corporate Medical Organization. The Company and Plant Industrial Hygienists are responsible for follow-up to insure that a recommendation is received from the Corporate Medical Organization. The Plant Industrial Relations Department is responsible for insuring that Corporate recommended medical exam programs are carried out.

VIII. Training

Coordinating the training of employees in safe handling of chemicals will be primarily the responsibility of the Safety Supervisor. However, line management will play a major roll in the actual training. The Plant and Company Industrial Hygienists will assist by providing specialized training material covering such areas as basic principles of toxicology, understanding environmental monitoring programs, special health hazards (such as carcinogens and mutagens) and chemical safe handling procedures. Employees will be made aware of correct procedures for handling chemical spills and information contained in the Material Safety Data Sheets (including symptoms of overexposure and first aid procedures).

Such training material will normally be presented to the employees in the regular and mini-safety meetings. The Safety Supervisor or Unit and Maintenance Supervision may request the Plant or Company Industrial Hygienist to participate directly in the training sessions. In addition, the Industrial Hygienist will regularly conduct an industrial Hygiene class for the BOP training sessions. Maintenance and Laboratory supervision will be notified far enough in advance so that their new employees can attend these sessions.

IX. Toxic Substances Control Act (TOSCA)

All compliance activities associated with TOSCA will be coordinated by the Plant Industrial Hygienist.

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X. Hazardous Chemical Control

The Plant Industrial Hygienist will be responsible for:

1. Performing an industrial hygiene review of all *new chemicals prior to the chemicals being introduced into the plants.
2. Compiling toxicological information on all chemicals.
3. Coordinating hazardous chemical labeling systems.

Purchasing personnel will be responsible for alerting the Industrial Hygienist before a new chemical is ordered for the plant. In addition Unit Supervisors, Laboratory Supervision, and Maintenance Foremen are responsible for alerting (well in advance where practical) the Industrial Hygienist that new chemicals are to be used.

Prior to purchase, physical, chemical, and toxicological data on new chemicals will be reviewed by the Plant Industrial Hygienist in sufficient detail to ensure that potential hazards associated with their use can be evaluated and adequate safeguards can be established to allow safe handling, use, and disposal. Safety data sheets should be obtained prior to purchase of any new chemicals.

A Company program called Hazard Review of Purchased Chemicals will go into effect July 1, 1978 and will be under the direction of the Chemical Company Manager, Industrial Hygiene and Toxicology. As part of the program, an approved list of chemicals and materials will be developed by the Company Industrial Hygienist with assistance from the plants and the Corporate Medical Department and approved by the Company Toxicological Review Committee. The list will be updated monthly. No new chemical will be approved for purchase or appear on the approved list unless it is listed in the Inventory List authorized under the Toxic Substance Control Act of 1977.

The Plant Industrial Hygienist will be responsible to insure that all new chemicals he approves are inputted to the list. Any new chemical which has the potential for posing a serious health risk due to its carcinogenicity, mutagenicity, or teratogenicity must be approved by the Company Toxicological Review Committee. The committee will act on request within 15 days of receipt.

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*Chemicals purchased in small quantities for research and laboratory use will be excluded from the control procedures. A facility manager or his designee can grant temporary approval of a chemical or material in an emergency to avoid a critical process outage. Written notification of such exceptions must be sent to the Company Industrial Hygienist within 5 days. The approving authority in the two exceptions listed above is responsible for obtaining enough information on the material to ensure its safe use.

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XI. Contacts With Regulatory Agencies

Plant initiated contacts with regulatory agencies should have prior approval by the Company Industrial Hygienist and legal counsel. All information sent to regulatory agencies will be reviewed and approved by the Law Department. Confidentiality disclaimers should be included for any confidential technical process unit information.

XII. Review of Process Changes and New Processes

On all RFA's the Plant Industrial Hygienist (assisted by the Company Industrial Hygienist) will review new designs and process changes and make recommendations pertaining to:

1. Specific equipment and design detail
2. Special protective equipment required
3. Necessary Monitoring

to limit employee exposure to acceptable levels. This review and recommendations should be completed prior to funds approval so that necessary funds can be included to cover the recommended items.

On all RFS's, it is the responsibility of the process design engineer, project enigneer, and unit supervisor to determine if a likelihood of increased exposure exists and, if so, secure the input and approval of the Industrial Hygienist prior to proceeding with a new installation.

XIII. Specific Assignment of Responsibilities

1. Technical Department

A. Responsible for industrial hygiene program development and implementation.
B. Establish priorities for monitoring chemical exposures.
C. Monitor airborne chemicals in the plant.
D. Interpret monitoring results (assisted by Company Industrial Hygienist) and report results to supervision and plant management.
E. Coordinate plant compliance activities associated with TOSCA.
F. Recommend medical surveillance programs for exposed employees.
G. Hazardous chemical review and toxicology.
H. Assist Safety and Line Management in training.
I. Coordinate OSHA compliance with employee exposure to toxic chemicals.
J. Recommend procedures for controlling occupational health hazards (assisted by Company Industrial Hygienist).

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K. Coordinate between Celanese and contractors in matters dealing with employee health related to chemical exposure.
L. Review of new designs and process changes from Industrial Hygiene viewpoint.
M. Maintain complete files of all determinations, calculations relating to employee exposure or potential for exposure.
N. Additional Industrial Hygiene responsibilities can be found in the Industrial Hygienist's job description.

2. Safety Department

A. Administer medical surveillance exam program.
B. Coordinate employee training in Industrial Hygiene area.
C. Maintain OSHA records of chemical exposures.
D. Assist in establishing monitoring priorities.
E. Assist Line Management in insuring that recommended personnel protective equipment including respirators are used.
F. Ventilation system checks.

3. Line Management

A. Supervision will be responsible for counseling employees on monitoring results and how it affects the employees.
B. Assist in establishing monitoring priorities.
C. Inform the Industrial Hygienist of the possible need for special sampling due to planned operational or process changes or upset conditions that could significantly change the potential for airborne contaminants. Initiate corrective action:

1.)Short term administrative action to alleviate employee exposure and enforcement of same.
2.)Long term engineering requests to minimize exposures to come into compliance.

D. Insure employee use of recommended personal protective equipment.
E. Follow Industrial Hygienist guidance to insure OSHA compliance with employee exposure to toxic chemicals.
F. Enforce and help develop any administrative controls required to minimize employee exposure.

XIV. Potable Water System

Insuring compliance sampling is conducted on potable water, maintaining all required regulatory records dealing with the system, and assuring

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compliance with appropriate federal and state regulations dealing with potable water systems will be an Environmental Maintenance function.

Line management is responsible for maintaining the potable water system and associated equipment in good mechanical condition within their area of responsibility. The Utility Department is responsible for the operation of the well and the main potable water supply system.

INDUSTRIAL HYGIENE MONITORING

Date: _____

Last Name: _____ First: _____ Middle Initial ____

Security No: _____ Area: _____

Description: _____

Report:

Initial: _____ Periodic: _____ Accident: _____ Investigation: _____ Other: _____

Agent Monitored: _____

Estimated Degree of Exposure

Elements	Approx. Frequency			Approx. Duration, Hrs./Month			Exposure
	Daily	Weekly	Monthly	4	4-40	40>	

Type: Personal _____ Area _____ Sample No. _____

Meteric Conditions:

Velocity _____ Direction _____ Temp. _____ Rel. Hum ____

Pressure. _____

Substance Control: _____ Ventilation Measurement: _____

Protective Equipment: _____

Brand: _____ Serial No.: _____

Last Date: _____ By: _____

Accessories: _____

Time: Begin: _____ End: _____ Average: _____

Method: _____

Sample No.	Time	Volume	Results

Exposure Level: 8-hr. TWA _____ Ceiling: _____

_____ Analysis By: _____

Personnel involved listed on back of form: Yes No

006264

Unit Operation