

Interoffice Memorandum

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Subject: 3-5 YEAR EHSA - IDENTIFICATION PROPOSAL

In reviewing the legislative and regulatory issues in the environmental area, the impact on CER for 3-5 years is as follows:

BOUNDARY EMISSIONS

CLEAN AIR ACT (CAA):

a. Hazardous Air Pollutants (HAPs) - There are currently five lists of acutely toxic chemicals that are used as a reference in the chemical industry and that could impact the CER locations from an exposure view point. They are as follows:

- Congressman Waxman's List (85)*
- EPA List (405)*
- Texas Air Control Board (TACB) List (77)*
- Kentucky Department of Environmental Protection List (223)*
- New Jersey Department of Environmental Protection List (27)*

*NUMBER OF CHEMICALS ON EACH LIST

When combining the five lists, there are a total of 817 acutely toxic chemicals, which can be considered HAPs, and many of which are duplicates. After reviewing these lists, the following 18 chemicals have been identified and prioritized as having the potential to impact boundary/fence-line emission at CER locations. They are as follows, with legislative and regulatory potentials.

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DO IT RIGHT THE FIRST TIME

<u>Chemical</u>	<u>Regulated within 1-2 years Worst Case</u>	<u>Regulated within 3-4 years Possible Case</u>	<u>Regulated within 5-6 years Most Likely Case</u>
Asbestos	X		
Benzene	X		
Chlorine	X		
Ethylene Oxide	X		
Formaldehyde	X		
Acetaldehyde		X	
Methylene Chloride		X	
1,1,1 Trichloroethane		X	
Acetic Anhydride			X
Boron Trifluoride			X
Cadmium Pigments			X
Hydrazine			X
Hydrogen Sulfide			X
Hydroquinone			X
Isopropanol			X
Methanol			X
OCP			X
Sulfuric Acid			X

The five chemicals listed under "worst case" can within 1-2 years be required by the states to be modeled at petrochemical and chemical manufacturing facilities. Asbestos is being regulated under OSHA, and the impact which will be in the work areas of those industries, will also effect the boundary or fence line emissions. In essence, asbestos emissions are being controlled.

The other chemicals, benzene, chlorine, ethylene oxide and formaldehyde will either become part of the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) under Section 112 of the CAA, or the aggressive states will develop guidelines which will effect the emissions and eventually become emission limits. In Texas, the Texas Air Control Board (TACB) requested that formaldehyde be modeled at the Bishop plant to determine the boundary or fence line concentrations. This action has been completed and to date, it is anticipated that no additional modeling is required. There are currently no fence line emission limits for formaldehyde in the state of Texas. A chemical fence line data base however, will be developed for the TACB by industry. The other chemicals, benzene, chlorine and ethylene oxide are on the same TACB suspected toxic chemical list as formaldehyde. We should therefore expect the TACB to look for additional fence line models of the remaining three chemicals. Cost of modeling - \$200M each chemical ('86 costs).

a. Worst Case - \$800M Bishop and \$20M Florence - Total.

b. Possible Case - \$550M Bishop and \$15M Florence - Total.

c. Most Likely - \$425M Bishop and \$10M Florence - Total.

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Aerosol-Particulation - When referring to the terms of particulation or particulates, it is assumed that they are suspended solids from a fossil fuel such as SO₂ and NO_x emissions. Those emissions are criteria pollutants, which have primary and secondary emission standards, and are related to acid rain. The legislative houses are in a state of flux in trying to reduce the levels of SO₂ and NO_x by introducing a variety of new controlling methods. Boundary or fence-line emissions of SO₂ and NO_x are seldom considered since those pollutants travel or transport at a higher atmospheric level.

The greatest number of emissions of SO₂ and NO_x come from large power generating stations that burn coal or large volumes of sulfur fuel oils. The second source of emissions is from large manufacturing facilities that generate SO₂ emissions as a result of high sulfur content in fuel oils, used for space heating and process, with limited pollution control or no controls. The impact on CER facilities is as follows:

a. Worst Case - \$842M Bishop and \$102M Florence Annually.

This relates to a nationwide fee on electricity usage; increased electric utility rates; increased fuel costs to comply with industrial boiler emission requirements; and increased capital to reduce process emissions.

b. Possible Case - \$622M Bishop and \$70M Florence Annually.

c. Most Likely Case - \$500M Bishop and \$34M Florence Annually.

SOLID WASTE DISPOSAL

Resource Conservation and Recovery Act (RCRA)

Hazardous and Solid Waste Amendments of 1984 (HSWA)

The Bishop plant is currently in the process of closing approximately 500 acres of its solarponds under a compliance agreement with the Texas Water Commission (TWC). The plant is required to have the liquid waste out of the pond and the ponds closed by November 8, 1988. The Bishop plant has begun to place an interim cap over the ponds since the closure plan has not been totally accepted by the TWC. The final cap will be completed when the interim capping is finished and when the revised closure plan has been accepted by the TWC. By utilizing the interim capping procedure, this will allow the early run off of the uncontaminated rainfall rather than having it collect in the solarponds and thereby lengthening the period of time for solarpond or surface impoundment closure.

Pond 13e which is 52 acres has been restored for use and is the start of the plan for emptying out the solarponds for closure and capping. The other ponds to follow are in the order of Ponds 9, 10, 11, 3 and 4 which make up a total of 134 acres. The remaining ponds to be emptied and capped

are 7a, 7b, 8a, 8b, 8c and 8d which is a total of 192 acres. The scheduling is so close that in order to meet the deadline abnormally good weather is really required. The regulatory circumstances could be:

a. Worst Case - Very high quantities of rainfall not allowing the emptying of the ponds or the closure of the ponds by November 8, 1988 could cause the plant or CER to be fined for being out of compliance. The fine could be based on each quarter or each six month period of time necessary in an extension for emptying and closing of the ponds - \$500M.

b. Possible Case - CER or the plant would receive a fixed fine with a specific length of time, an extension in emptying and closing the ponds. If that deadline is not complied with, another larger fixed fine and an extension would be given - \$250M.

c. Most Likely Case - If the plant is not in compliance with the November 8, 1988 deadline, a fixed fine will be given to the company or the plant with an agreed upon period of extension for being able to empty and close the solarponds - \$10M.

At the other CER locations, there are no severe solid waste problems.

SUPERFUND TAX

Under the current Superfund Bill, the Bishop plant, Celanese Chemical Operation, pays approximately 2 million dollars in taxes for specific feedstocks used in manufacturing chemicals. The Superfund Bill is up for reauthorization and currently the legislators are thinking of funding the Superfund Bill through a feedstock tax, a waste-end tax, and a broad base tax. The total sum of the Superfund Bill will range somewhere between 6-10.3 billion dollars, most of which will come from oil and chemical industries. The taxes therefore under Bishop plant, will range between 4.2 and 12.4 million dollars annually for the next five years depending on which bill is signed. The breakdown is as follows:

a. Worst Case

8.43 million waste end, plus 1/2* of 7.93 million feedstock = 12.4 million dollars annually.

b. Possible Case

Waste end tax 1/2* of 8.4 million, plus 1/2* of 7.93 million feedstock tax = 8.2 million dollars annually.

c. Most Likely Case

Waste end tax 1/2* of 8.43 million dollars, and no feedstock tax = 4.2 million dollars.

*1/2 is based on Chemical Company funding 1/2 the Taxes.

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GROUNDWATER - DEEP WELL INJECTION - TANKS - INCINERATION

Groundwater legislation is expected to be introduced by the Environment and Publics Works Committee. The groundwater protection legislation essentially is being proposed to assist the states in the development and implementation of groundwater protection programs. There are a number of bills that have been prepared and circulated. In some bills the groundwater standards would be the same as for drinking water, and another bill calls for more research on groundwater contamination.

In reviewing the Safe Drinking Water Act the impact on CER will be the same essentially as the groundwater legislation since the water quality standards will be similar, thereby classifying the different aquifers. Because of the groundwater problems at Bishop, that plant can be impacted, but not the Florence facility. The Bishop Plant is under a compliance schedule to have all solarponds capped by November of 1988, do some groundwater retrieval and to prevent groundwater contamination from leaving their site. Because of this time span, the impact of both the groundwater legislation and the Safe Drinking Water Act will extend into '89 and possibly '90 making it a four year impact.

The HSWA of 1984 will also impact the Bishop Plant as a result of eliminating certain chemicals (California List) from being disposed of by deepwell injection. However, depending on which pieces of legislation are passed, the impact can be major. For example, if the disposal of all hazardous wastes in underground injection wells is no longer permitted this will have a great impact on the Bishop facility. Subsequently either a new wastewater treatment facility must be constructed, or the current one expanded or some new type of method must be developed for disposing of liquid hazardous wastes.

1. Underground Injection Wells (UIJ)

a. Worst Case - If no chemicals are permitted for disposal:

- New wastewater treatment plant - \$12MM or
- Reverse Osmosis Unit - 2-4% Organics and salt removal - \$10MM or
- Hauling the 1,077,000 tons - \$30MM

b. Possible Case - Limiting the waste load to the UIJ well - partial treatment with present Celrobic - \$10MM

c. Most Likely Case - Permitting 95% of wastes to be deepwell and a small pretreatment unit - \$2MM

2. Underground and Above-Ground Storage Tanks

a. Worst Case - Retrofitting 7 tanks and replacing 2 for secondary containment - \$585M

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b. Possible Case - Retrofitting 8 tanks and replacing 1 - \$400M

c. Most Likely Case - Retrofitting 9 tanks - \$250M

3. Having Incinerator Meet New Design Criteria

a. Worst Case - New Unit - \$1.8MM

b. Possible Case - No Option

c. Most Likely Case - Retrofitting present unit - \$0.700MM

With a variety of Bills and Legislative maze combined with re-authorization and new acts, the above projected costs will continually be updated in order to project changes.

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Aerosol Particulation - Inhalation, Employee Exposure

Present Bishop Plant

The most significant exposure potential is formaldehyde exposure. Currently procedures have been implemented to assure that all workers' exposure do not exceed 1.0 PPM. A corrective action team has been formed to reduce the exposure level in areas that exceed 1.0 PPM. Cost estimates to reduce the formaldehyde exposure to 1.0 PPM has been estimated at 10MM. This is a ball park estimate which the corrective action team will review.

1st Year

Currently, hearings held by OSHA on the proposed formaldehyde standard are in progress. CER-EHSA has worked with Corporate NYO and SPI on this issue.

a. Worst Case - Formaldehyde exposure level drops to 0.5 PPM. Action - this could cause significant problems from an employee exposure issue. The estimated engineering costs to reduce the formaldehyde exposure to 0.5 PPM is 40MM.

b. Possible Case - Formaldehyde exposure level is dropped to 1 PPM. Action - this is consistent with our corporate policy, procedures are in place to meet this level. Celanese response to this new rule would be favorable.

c. Most Likely Case - Originally it appeared that the exposure level would be 1.0 ppm, however the possible action of level being dropped to 0.5 ppm is increasing cost \$10MM - \$40MM.

3-5 Year Plan - Continual work will be performed to reduce the formaldehyde exposure level. Once the new level is set by OSHA, this should remain constant at the new level. I.H. monitoring programs will be in effect to assure compliance. In areas where exposures exceeded the requirements, personal protective equipment will be worn.

Present Florence Plant

The exposure issues that currently face Bishop are not present at Florence. The only potential problem is formaldehyde exposure from extrusion operations, which would exceed 0.5 ppm. The cost to reduce the emission would be for Engineering Controls - less than \$100M.

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PROGRAM - UPDATE

INDUSTRIAL HYGIENE

*Keep all elements of →
Good IH Program active.*

Bishop - All major program elements are in place as verified by the recent Comprehensive Corporate Audit. Maintenance of basic program elements is needed. ?

Florence - Phase II of the Florence program will begin in July and all basic elements completed by December, 1986 (prior to Florence's Comprehensive Corporate Audit in 1987). Management of the program will continue out of Chatham including supervision of an outside Consultant.

CSP - A similar program to Florence is being initiated at South Point and a 12 month phase-in program will be modeled after Florence for CSP.

3-5 Year Plan - All Plant I.H. Programs will be managed and reviewed by CER-EHSA-Chatham. Current I.H. cost are budgeted into the Plant programs. No significant increase in current costs are participated. There may be an increase in monitoring for formaldehyde, however, it would be less than \$10M annually.

MEDICAL SURVEILLANCE

Bishop - Bishop will continue under the "chemical" program with phase-in to CER control by August, 1988.

Florence - As per Task Group recommendations, Florence will be used as the pilot study with completion by August, 1987.

CSP - CSP (South Point) will be modeled after Florence and will be completed by August, 1988.

3-5 Year Plan - The program is under the direction of the CSO Medical Director. Preliminary cost - \$200M for program implementation has been approved. Additional costs will be formulated upon program completion.

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PROGRAM UPDATE

CAER

- Florence - The Florence Plant is in the process of implementing the CAER Program. Discussions with the local Fire Department have been completed and Celanese Personnel have addressed the Northern Kentucky Industrial Park Management Council, outlining the CAER Program and the SPF's Development Plan. An In-Plant CAER Implementation Plan has been written with CAER Milestones outlining specific stages of Program completion. All Plant Personnel were informed of the Program in June, 1986, following the completion of the OSHA Hazard Communication Training. Currently, the Boone County Disaster and Emergency Plan is being updated. The SPF's Plan will integrate this Emergency Response Plan. County-wide mock disaster drills are conducted annually.
- Bishop - The Bishop Plant formally began implementation of the CAER Program on June 24, 1986 at the Plant. Representatives from the Fire Department, local Emergency Response, Hospital, and County officials were present. Emergency Management Coordinators from Kingsville and Bishop were also present along with representatives from the Naval Air Station, and Exxon Corporation. Additional meetings have been scheduled with other local agencies to promote the Plan. The Bishop Plant is in the process of implementing their Emergency Response Plan in coordination with the representatives that attended their CAER Kick-Off Program.
- 3-5 Year Plan - Celanese is committed to full implementation of the CAER Program. Program Budgets will be controlled at the Plant. At this time, there does not appear to be any significant cost items - other than Plant Programs and Personnel Time Allocation.


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ADP/das

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