

Interoffice Memorandum

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TO (Name and Location)	DATE
Carl Repsher - Salisbury	March 27, 1987
FROM (Name and Location)	REFERENCE NO.
G.A. Vos	GAV-031-87

Subject: Final Report of Corporate Comprehensive Environmental, Health & Safety Audit At Salisbury, N.C. - March 2-6, 1987



Executive Summary

A comprehensive Celanese Corporation, Environmental Health & Safety (EH&S) Audit of the Salisbury, N.C. Fibers Plant located in Salisbury, N.C. was conducted on March 2-6, 1987. Following is the final report of the audit team.

The key findings listed in order of priority are:

- o Although the plant has an asbestos disposal procedure, asbestos was observed being discarded in a general plant trash dumpster without proper packaging (i.e., sealed plastic bag with asbestos label) and a dumpster dedicated for asbestos waste was being used for waste other than asbestos. (Finding 87.1)
- o The Salisbury Plant has developed a PCB program but records could not be found indicating specific PCB analyses has been run on all electrical equipment. Tests have been run to determine what electrical equipment contains greater than 500 ppm PCB. No record could be found that indicated that the Dowtherm fluid has been tested for PCB content. (Finding 87.2)
- o TSCA regulations require that an annual report of PCB activities be completed by July 1, of each year. Although routine inspections of PCB equipment were documented, a detailed PCB annual report could not be found. (Finding 87.3)
- o The plant has an established policy for liquid waste storage and disposal that is not being followed. (Finding 87.4)
- o The hazardous waste drum storage areas are not provided with adequate spill containment facilities (Finding 87.5)
- o Asbestos waste was observed being disposed at the Salisbury plant off-site landfill on Needmore Rd. The North Carolina state permit 80-02 does not

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specifically list asbestos as one of the wastes to be landfilled at the site. (Finding 87.6)

- o There appears to be little supervisory enforcement in the spin draw area for the Plant Respiratory Protection Policy. RACAL respirators are provided in this area to control employee exposures to T-55 finish; observations by the audit team revealed that approximately 70% of observed employees were not properly wearing or using their respirators in designated areas. (Finding 87.22)
- o Although the plant has formal procedures for respiratory protection, the procedure and practices do not include a number of necessary items. (Finding 87.23)
- o The annual hearing conservation training is the responsibility of first line supervision; there is no documentation of hearing conservation training during 1986. In addition, it was observed that less than 50% of employees were found to be wearing hearing protectors in designated areas. (Finding 87.24)
- o It was observed that asbestos gloves and suits are being provided for entry into the high temperature salt rooms in the Pack Cleaning area. The suits are old and have deteriorated to the point where friable asbestos could be released during their use. (Finding 87.25)
- o The current plant procedures concerning documentation of occupational injuries does not ensure all injuries are recorded properly. The first aid log does not provide information necessary for proper evaluation of injury recordability. Reports from doctors in some cases do not provide the necessary information concerning restricted duty and in other cases are not specific enough for proper evaluation of injury recordability. (Finding 87.34)
- o The present method of filing accident/injury records does not allow for historical review and substantiation of proper OSHA illness/injury recording prior to 1987. (Finding 87.35)
- o During the course of the audit, two confined space entry operations were conducted. Observation of both events indicated plant policies and procedures were not followed. In the first instance, subcontractor personnel were observed inside boiler (M-1) in T-Building with no manhole

watch. The permit was not signed by a Celanese Safety Representative and 110 volt lighting was in use without ground fault protection. In the second instance, a vessel in K-16 area was to be entered with two lines feeding into the vessel closed only by a quick open valve loosely chained and locked. Procedures require blinds or separation of such lines and a 110 ten volt lighting was in service with no ground fault protection. (Finding 87.36)

- o A number of plant safety procedures were not followed in the automated warehouse while subcontractor grinding and welding operations were being performed on the stacker crane, (i.e., no fire proof curtains were used to shield the work area, only 1 fire watch and 1 extinguisher were available while plant procedures calls for 2 of each, in addition, there were no charged 1-1/2" fire hoses present as required by plant procedures. (Finding 87.37)
- o . The plant does not have a program in place to schedule and test pressure relief valves on all pressurized vessels. (Finding 87.38)
- o The present plant program for periodic inspection or emergency lighting is inadequate. Even though the routine inspections are done, the inspection performed by plant safety in December of 1986 indicated approximately 25% of emergency lights did not operate properly. (Finding 87.39)
- o The plant has no records or management system relating to the evaluation of environmental and industrial hygiene reports for reporting health and safety studies under TSCA, Section 8(d). (Finding 87.51)

SALISBURY, N.C. - AUDIT REPORT

Scope

This was a comprehensive environmental, health and safety audit to assure to the extent practical the plant's compliance with applicable laws and regulations and Celanese policies and procedures. The audit included a review of environmental control measures, safety and industrial hygiene programs, employee health, emergency response preparedness plans and community related issues. Findings are generally those observations where procedures or practices may be out of compliance with standards and good industry practices and/or could present an unacceptable risk to employees, property or the community.

Audit Procedures

The audit was based on advance information supplied by the plant, and information gleaned from inspections of the facility, discussions with plant management, staff, operators and environmental, health and safety personnel and inspection of the areas surrounding the plant.

The audit team was composed of the following individuals:

- Grover A. Vos - Corporate Audit Team Leader,
(Corporate Manager, Environmental, Health and
Safety Audit Programs, Celanese Corporation, New
York, NY)
- G.R. Dorgant - Corporate Environmental Auditor
(Senior Environmental Engineer, Celanese Chemical
Company, Inc. Clear Lake, TX)
- B.C. Adams - Corporate Industrial Hygiene Auditor
(Company Industrial Hygienist, Celanese Chemical
Company, Inc., Dallas, Tx.)
- D.G. Bremer - Corporate Safety & Loss Prevention
Auditor, (Supervisor, Safety & Security, Celanese
Chemical Company, Inc., Bay City, Tx.)

Assisting from the Salisbury Plant were:

- Carl Repsher - Plant Manager
- Dow Perry - Safety, Health & Environmental
Superintendent
- Tom Hardesty - Supervisor, Safety & Security

Richard Lambert - Safety Coordinator

Dave Smith - Senior, Environmental Engineer

Dale Owens - Occupational Health Technician

Tom Halley - Manager, Industrial Relations

FACILITY AND LOCALE DESCRIPTION

The Salisbury, North Carolina plant is located on North Carolina Highway 70, approximately nine miles east of Salisbury, N.C. (population approximately 20,000). There are approximately 150 people living within 1 km. of the plant, and about 10,000 living within 10 km. of the plant. Manufacturing operations at Salisbury began in May 8, 1966 with production of polyester polymer chip, staple fiber and industrial filament. The principal chemicals in polymer production are terephthalic acid and ethylene glycol. Other small quantity additives include titanium dioxide, antimony trioxide and a variety of fiber machine oils, finishes and top coats. The plant employs approximately 2000 people with an average per shift of 400, plus another 400 staff on the day shift and an additional contract workforce of about 150 people.

The plant uses both natural gas and fuel oil for its boiler operation and steam generation.

Raw water is taken from Second Creek which runs along the western edge of the plant. The water is filtered and placed in a storage tank. Water from the tank is used after de-ionizing for finish makeup water and without further treatment for process water, and as fire water.

The process wastewater is mixed with sanitary sewage and sent to the facility's wastewater treatment facility. The effluent from the wastewater treatment facility is returned to Second Creek below the raw water intake. Storm water is also discharged to Second Creek.

Asbestos, non-hazardous and solid wastes, are sent to a company owned offsite landfill about 5 miles away on Needmore Road. The plant also operates a sanitary landfill on the plant site which is approved for demolition and landscape waste only. Hazardous liquid waste is disposed of through a contractor at an approved site. The plant has initiated an extensive hydro geological study of the areas around the plant and the offsite landfill.

Emergency Response Preparedness (CAER)

The Salisbury plant is progressing with both its CAER Program and the development of a Hazardous Materials Advisory Council (HMAC) for the county. Progress is being made towards completion of the CAER milestones and eventual testing of the community response plan.

Key civic and emergency response groups have been contacted and given copies of the emergency response plan. Meetings have been held where the plant's operations, significant

chemicals and their associated hazards have been discussed. The County HMAc serves as the focal point for Salisbury's CAER activities. Salisbury's management was and remains the initial catalyst for the local HMAc.

There is generally good awareness in the community about the products produced at the plant. There is support in the community on CAER issues and the plant appears to have an excellent network with the community and local agencies.

FINDINGS NOT REQUIRING FURTHER ACTION

Several aspects of the plant's safety, health and environmental programs deserve commendation as positive elements of a good program.

- o The spill response equipment van is unique, one of the most thoroughly equipped for the potential tasks involved at this facility. In addition, the hands on practice drills utilizing this equipment are well thought out and conducted.
- o Groundwater monitoring program is more than adequate and appears to have been instrumental in identifying a problem.
- o The procedures and collection systems for waste accumulation of orthochlorophenol (OCP) and Perchloroethylene waste are well designed.
- o Hazard communication training and distribution of MSDS's (appears to be well done) has been accomplished and documented.
- o The industrial hygiene sampling schedule is adequate to properly identify hazards.
- o The radiation safety programs and procedures are well maintained and comply with all government regulations.
- o The emergency brigade is well organized, trained and motivated.

FINDINGS REQUIRING FURTHER ACTION

The findings listed below under each function have been ranked according to their respective priority (Priority A-High; Priority B-Medium; Priority C-Low).

ENVIRONMENTAL

- 87.1 Although the plant has an asbestos disposal procedure, asbestos was observed being discarded in a

general plant trash dumpster without proper packaging (i.e., sealed plastic bag with asbestos label) and a dumpster dedicated for asbestos waste was being used for waste other than asbestos. (Priority A)

- 87.2 The Salisbury Plant has developed a PCB program but records could not be found indicating specific PCB analyses has been run on all electrical equipment. Tests have been run to determine what electrical equipment contains greater than 500 ppm PCB. No record could be found that indicated that the Dowtherm fluid has been tested for PCB content. (Priority A)
- 87.3 TSCA regulations require that an annual report of PCB activities be completed by July 1, of each year. Although routine inspections of PCB equipment were documented, a detailed PCB annual report could not be found. (Priority A)
- o Location and quantity of all PCB containing or contaminated equipment (transformers, capacitors, oil)
 - o Specific PCB concentration and total quantity of PCB (in kilograms)
 - o Records of PCB equipment repairs and servicing
 - o Stored, retrofilled and/or disposed of PCB containing or contaminated equipment
- 87.4 The plant has an established policy for liquid waste storage and disposal that is not being followed. (Priority A)
- o Drums are being accumulated in about 10 areas (500-1000 drums); many of these areas do not have adequate effluent control.
 - o Drums are in poor condition, many are leaking, and they are not properly labelled and marked.
 - o One drum in K Building storage area appeared to be leaking (OCP waste).
 - o Utility's department has not received proper identification of the waste to allow for disposal.

- 87.5 The hazardous waste drum storage areas are not provided with adequate spill containment facilities. (Priority A)
- o The K Building storage area has a collection flume that drains to the storm sewer instead of the chemical drain or to an isolation sump.
 - o The plant services storage area would allow spills to drain across the ground to a storm sewer down the street.
- 87.6 Asbestos waste was observed being disposed at the Salisbury plant off-site landfill on Needmore Rd. The North Carolina state permit 80-02 does not list asbestos as one of the wastes to be landfilled at the site. (Priority A)
- 87.7 The Salisbury Spill Prevention, Control and Countermeasure (SPCC) plan does not specify exact types, quantities and location of all oils, chemicals and hazardous wastes used in the plant. (Priority B)
- o Containment systems are described but exact location and volumes of bulk storage tanks are not listed.
 - o Hazardous waste drum storage areas are not listed.
 - o The location and description of all PCB containing or contaminated materials are not listed.
- 87.8 Stormwater control at the facility is inadequate. Stormwater containing a white chalky substance was observed being discharged directly to Second Creek from stormwater diversion point #5. Stormwater containing an oily residue was observed being discharged from the oil skimmer facility in the south section of the plant near the waste treatment plant. (Priority B)
- 87.9 On several occasions the outfall from the waste treatment plant was observed to be foaming excessively which could have resulted in discharging wastewater with visible foam in quantities greater than trace amounts. (Priority B)
- 87.10 The roof exhaust vent on Bay 1 (spin/draw lines K1 & K2) of the filament spin drawing operation was observed discharging higher than normal particulate emissions on March 4th and 5th. The particulate emission consisted of an oily residual reported to

contain T-55 finish. Visible emissions of dust were observed several times venting from the terephthalic acid loading area (Reaction System) exhaust fan.
(Priority B)

- 87.11 The Salisbury plant hazardous waste training program does not include a list of job descriptions for all persons involved with hazardous waste disposal or include all persons involved in hazardous waste handling, such as, maintenance workers, fire brigade members and captains involved in spill response in the training program.
(Priority B)
- 87.12 The hazardous waste drum storage areas contained drums with labelling and packaging discrepancies; (i.e., Drums had multiple labels (old labels still on drums) that contradicted themselves. Drums were found with hazardous waste label and methanol labels and corrosive liquid with flammable stickers).
(Priority B)
- 87.13 The recently amended air permit (No. 332SR10) for the Salisbury plant contains several inconsistencies that are not representative of the current plant operation (i.e., emission points that are actually general work area ventilation exhausts and the bag filters indicated on the polyester chip storage hoppers).
(Priority B)
- 87.14 The Salisbury plant has not developed an emission inventory identification system and a facility plot plan to clearly identifying and locating all air emission points. A program has not been established to verify that all identified plant emission points are meeting regulatory limits or permit conditions.
(Priority B)
- 87.15 The ethylene glycol tank truck unloading facilities does not have an adequate spill containment facility to keep a major spill of ethylene glycol from reaching the plant stormwater system. Although some of the spill could be contained in the chemical sewer drain, most of the material would flow to the storm sewer. (Priority B)
- 87.16 The Salisbury plant's offsite landfill at Needmore Rd. was observed to have inadequate security. There was no entry control to prevent unauthorized dumping of waste by persons other than Celanese and to prevent unauthorized entry of children and other unauthorized persons. (Priority B)

- 87.17 The Salisbury plant has not developed a clear, distinct plan for identifying hazardous and non hazardous waste by either in plant laboratory facilities or contract laboratory services. (Priority C)
- 87.18 The Salisbury plant SPCC plan specifies that monthly visual inspections will be made on all bulk storage tanks by the Utilities and Maintenance superintendents as well as the shift supervisor. The inspection plan also calls for annual verification of wall thickness and all bulk storage tanks. Personal interviews revealed that neither of these inspections were being conducted and no written records could be found. (Priority C)
- 87.19 The Salisbury plant has not established a procedure for documenting telephone conversations and regulatory visits as required by CFI guidelines established in 1984. (Priority C)
- 87.20 A visual inspection of the Salisbury plant sanitary landfill (No. 80-A) revealed that waste materials other than demolition/landscape waste might have been placed in the onsite landfill. (Priority C)
- 87.21 The Salisbury fire training facility effluent discharges directly to Second Creek instead of the waste treatment facility. There was evidence that effluent from the area contained residues of oil and carbon from the fire training exercises. (Priority C)

INDUSTRIAL HYGIENE

- 87.22 There appears to be little supervisory enforcement in the spin draw area for the Plant Respiratory Protection Policy. RACAL respirators are provided in this area to control employee exposures to T-55 finish; observations by the audit team revealed that approximately 70% of observed employees were not properly wearing or using their respirators in designated areas. (Priority A)
- 87.23 Although the plant has formal procedures for respiratory protection, the procedures and practices do not include: (Priority A)
- o Fit testing for individuals required to wear face seal type respirators, except for emergency team members.
 - o Documented training in the use, cleaning, use limitations of, or maintenance of

respiratory protection equipment, except for emergency teams.

- o Proper and timely maintenance of the RACAL respirators on a regular basis.
- o A facial hair policy for employees required to use face seal type respirators, this includes emergency brigade personnel.

- 87.24 The annual hearing conservation training is the responsibility of first line supervision; there is no documentation of hearing conservation training during 1986. In addition, it was observed that less than 50% of employees were found to be wearing hearing protectors in designated areas. (Priority A)
- 87.25 It was observed that asbestos gloves and suits are being provided for entry into the high temperature salt rooms in the Pack Cleaning area. The suits are old and have deteriorated to the point where friable asbestos could be released during their use. (Priority A)
- 87.26 It was observed that several of the finish exposure reduction curtains on the filament spin draw (Lines K-4, 5, 6, 9) are not properly used and in need of repair. (Priority B)
- 87.27 It was noted that an asbestos "competent person" has not been trained nor have such a persons duties been incorporated in the plant asbestos policy. (Priority B)
- 87.28 The Plant Noise Control and Hearing Conservation Policy requires all employees exposed to noise above 85 dBA to be given annual audiograms; during 1986, approximately 70% of the effected supervisory and 35% of the effected hourly employees did not receive an audiogram. (Priority B)
- 87.29 Adequate safeguards were not taken during maintenance operations on Bay 1 (K-1 & 2) exhaust vent to prevent employee exposure to T-55 finish residue. (Priority B)
- 87.30 There is no procedure in place to assure information concerning unusual occurrences (spills, releases, etc.) are relayed to the industrial hygiene/medical section for inclusion in the facility Health Monitoring Program. (Priority B)
- 87.31 There is no written policy which prohibits eating or

drinking in the work area. Employees were observed with open containers of food and drink in the work areas, notably in the spin draw (T-55 area) and pack cleaning and assembly areas. (Priority C)

87.32 The Occupational Health Technician has had no formal training in the area of industrial hygiene sampling techniques or monitoring since February, 1980. (Priority C)

87.33 Existing plant procedures do not prevent contractors from bringing unapproved chemicals substances on to the plant site. (Priority C)

SAFETY

87.34 The current plant procedures concerning documentation of occupational injuries does not ensure all injuries are recorded properly. The first aid log does not provide information necessary for proper evaluation of injury recordability. Reports from doctors in some cases do not provide the necessary information concerning restricted duty and in other cases are not specific enough for proper evaluation of injury recordability. (Priority A)

87.35 The present method of filing accident/injury records does not allow for historical review and substantiation of proper OSHA illness/injury recording prior to 1987. (Priority A)

87.36 During the course of the audit, two confined space entry operations were conducted. Observation of both events indicated plant policies and procedures were not followed. In the first instance, personnel were observed inside boiler (M-1) in T-Building with no manhole watch. The permit was not signed by a Celanese Safety Representative and 110 volt lighting was in use without ground fault protection. In the second instance, a vessel in K-16 area was to be entered with two lines feeding into the vessel closed only by a quick open valve loosely chained and locked. Procedures require blinds or separation of such lines and a 110 ten volt lighting was in service with no ground fault protection. (Priority A)

87.37 A number of plant safety procedures were not followed in the automated warehouse while subcontractor grinding and welding operations were being performed on the stacker crane, (i.e., no fire proof curtains were used to shield the work area, only 1 fire watch and 1 extinguisher were available while plant procedures calls for 2 of each, in addition, there

were no charged 1-1/2" fire hoses present as required by plant procedures. (Priority A)

- 87.38 The plant does not have a program in place to schedule and test pressure relief valves on all pressurized vessels. (Priority A)
- 87.39 The present plant program for periodic inspection or emergency lighting is inadequate. Even though the routine inspections are done, the inspection performed by plant safety in December of 1986 indicated approximately 25% of emergency lights did not operate properly. (Priority A)
- 87.40 Numerous powered industrial vehicles were observed in operation without proper audible or visual warning devices. (Priority B)
- 87.41 Improper operation of powered industrial vehicles was observed, specifically with regard to the use of audible warnings in posted areas. (Priority B)
- 87.42 The plant was unable to provide the documentation to ensure the Halon System installed in K-16 area received an initial inspection. (Priority B)
- 87.43 Records indicate that plant fire hoses are not hydrostatically tested annually. (Priority B)
- 87.44 There is no plant program in place that ensures portable fire extinguishers are hydrostatically tested as required. (Priority B)
- 87.45 Follow up on the present inspection program for ensuring that facility fire doors operate properly during an emergency is inadequate. Although, the safety department has performed inspections annually, in some cases the same deficiencies were noted two years in a row. (Priority B)
- 87.46 Although overhead hoists bear load ratings, there is no plant program in place that ensures overhead hoists receive periodic general and load rating inspections and that adequate records are kept on the inspections. (Priority B)
- 87.47 Several pieces of the plant's emergency brigade personal protective equipment are not appropriate for the type of fire fighting required at the plant (i.e., 8 helmets, 6 bunker coats and all of the fire fighting gloves). (Priority B)
- 87.48 During the audit, numerous incidents of

non compliance with the plant policy covering safety glasses were observed. (Priority C)

- 87.49 There is no formal program to ensure that all portable fire extinguishers are properly inspected as per plant policies and procedures. There is spotty documentation of inspections and inspection tags on extinguishers indicate monthly inspections are not being performed. (Priority C)
- 87.50 The facility does not have a system in place that would provide documentation to ensure all fork lift operators are certified every two years. (Priority C)

PRODUCT SAFETY

- 87.51 The plant has no records or management system relating to the evaluation of environmental and industrial hygiene reports for reporting health and safety studies under TSCA, Section 8(d). (Priority A)
- 87.52 There has been no specific education of employees and other appropriate individuals regarding their right to make allegations of significant adverse reactions relating to human health or the environment under TSCA Section 8(c). (Priority B)
- 87.53 The plant has not established a means for ensuring and documenting that all appropriate individuals at the facility have received training on their obligations to report substantial risk information through the plant, Division and Corporate Substantial Risk Review Process under TSCA, Section 8(e). (Priority B)
- 87.54 The facility does not have a strategy prepared for responding to the applicable portions of the Superfund Amendments and Reauthorization Act (SARA). (Priority B)
- 87.55 The content of on-site contractor safety, health and environmental orientations has not been formalized and no system exists to ensure and document that facility representatives have provided adequate EH&S orientations to contractors under their jurisdiction. (Priority B)
- 87.56 No records or management system exists at the facility to ensure the plant has responded to Preliminary Assessment Information Rules under TSCA, Section 8(a). (Priority B)