WV-0231 #1

UNION CARBIDE CORPORATION
Specialty Chemicals Division — Sistersville, WV

November 5, 1986

MEMO TO: L. W. Phair

COPY TO: D. A. Boggs
S. L. Curtis
E. L. Doerflein
W. V. Summer
✓G. W. Wulfert

SUBJECT: Asbestos Insulation Investigation

An investigation team (1) recently reviewed the condition of the asbestos insulation on the old methyls columns located on the north side of the monomers control room. Observations have revealed a very serious deterioration of the protective covering on all six columns exposing large areas of asbestos insulation. The exposed insulation is literally falling off the column in chunks and landing on the structure and graveled areas below the columns. The columns are approximately 120 feet high with one of the worst conditions located on the top heads. From this height falling asbestos chunks have been found approximately 60 yards north of the column. Attached is the industrial hygiene report with more descriptive detail of the current condition and sample results.

Needless to say, the condition is critical and needs immediate attention. The team looked at various options for corrective action using existing maintenance insulators and concluded the scope was too large and too demanding for the current crew. This conclusion was based on the following issues:

* Current crew consists of only nine insulators.
* Current overtime is running over 40%.
* Winterization schedule cannot be interrupted unless critical jobs are delayed/sacrificed.
* The crew has 13 weeks of vacation to cover and only nine weeks left in the year.
* Work is already scheduled to cover the surfactant kettle replacement in mid November.

The options identified for corrective action include the following:

Option	Sistersville Manpower
1. Remove lose sections & spray insulation	12 manweeks
2. Remove lose sections & patch	24 manweeks
3. Total removal/do not replace	96 manweeks
4. Remove 4 large columns/replace 2 columns	160 manweeks
5. Contractor (all options)	

PLAINTIFF'S EXHIBIT
UC-4073

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Additional issues which must be addressed include the following:

1. Two columns (S-71/S-72) are currently being used for both trichlor and silicon tet production. These columns must remain in service which requires stripping the asbestos, painting, and reinsulating.

2. Four columns are not currently being used but have been part of several trichlor expansion projects and can be used if needed. They are not part of the methyls demolition project. These columns should be stripped, painted, and not reinsulated. Any further project must fund capital for reinsulation.

3. The ground areas around the columns must be cleaned up and the graveled areas removed and replaced.

4. The column area must be barricaded with proper asbestos warning signs until the project is completed. As mentioned before, this is an active operating area and proper protection must be worn.

5. It is important to get started soon. The plant is heading into winter weather and personnel will be working on six columns, roughly 120 feet high. These are not ideal working conditions.

Recommendations:

* Contract the work immediately.
* Strip the asbestos insulation on all six columns.
* Paint all six columns.
* Reinsulate only S-71 and S-72.
* Clean up the area and replace the gravel.

(1) Investigation Team:

D. G. Beddow
D. A. Boggs
S. L. Curtis
K. Purinton
G. W. Wulfert

D. G. Beddow

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2277A

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UNION CARBIDE CORPORATION
Specialty Chemicals — Sistersville Plant

MEMORANDUM TO: S. L. Curtis

FROM: D. A. Boggs

DATE: November 7, 1986.

SUBJECT: Serious Asbestos Health Hazard; Monomers North Rectification Area

COPY TO:
D. G. Beddow
E. L. Doerflein
D. A. Gosselin
T. L. Grittie
J. K. Kyle
C. R. McMillan
L. W. Phair
C. R. Rotthoff
G. W. Wulfert

A visual inspection of the distillation column towers in the north end of Monomers Rectification Area revealed large quantities of exposed, deteriorating asbestos insulation at various points of the equipment. Inspection of the graveled area north of the columns resulted in finding multiple chunks of asbestos material (ranging from 1/2" to 2" in diameter) as far away as ∽ 60 yards north. Three of these samples were picked up from the graveled area and sent to the Plant Spec Lab for identification. Subsequent microscopic analysis resulted in a positive identification of asbestos.

On Friday, October 31, 1986 the area immediately under the columns was hosed down and cleared of all fallen asbestos material. The area was barricaded and posted with proper warnings to personnel of the asbestos hazard. An inspection of the area by myself and the responsible Maintenance supervisor was made on Monday, November 3, 1986. Multiple pieces of asbestos material were observed in the concrete diked area under the columns. This material had fallen over the previous two days. This observation alone showed the magnitude of the problem in existence.

Due to the height of the columns (80-100 ft.) and the deteriorated condition of the asbestos insulation on the five columns a potential for wide-ranging airborne asbestos fibers exists. (New OSHA regulations have dropped the permissible exposure limit (PEL) on asbestos from 2 fibers/cc to 0.2 fibers/cc with an action level for monitoring and medical surveillance on exposed workers to 0.1 fibers/cc.) Although IH monitoring has not been performed specifically on personnel working in this area, the observation of large quantities of exposed deteriorated asbestos and the obvious "fall out" evidenced from 10-31-86 to 11-3-86 of this same material into the surrounding work areas provides sufficient justification for regulating the area with barricades, signs, and requiring personnel protective devices.

Due to the hazardous health potential existing it is imperative that attention be given to correcting this situation as soon as possible. Proper protection of employees must be followed in the immediately affected area. Actual determination of the total area affected will be difficult. Area IH monitoring will be performed for airborne fibers as soon as weather permits, in order to try and make this determination.

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Recommendations:

1. Repair or remove the asbestos insulation from the area to eliminate the potential for airborne asbestos fibers in excess of 0.1 fibers/cc.

2. Barricade and post the area in which asbestos material is visible on the ground notifying all personnel of the potential asbestos hazard.

3. Comfo II with HEPA (high efficiency) filters (red cannisters) required to enter area.

4. Disposable coveralls required for entrance into barricaded area.

5. Perform I.H. monitoring inside and outside of barricade for identification of airborne fiber concentrations.

A further action item is being pursued by IH personnel to identify and gather area sample data throughout the plant where exposed asbestos exists currently.

Please call me on Unicom 8-731-1475, or ext. 475 if you have any questions.

D. A. Boggs
Industrial Hygienist

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