BUSINESS CONFIDENTIAL

UNION CARBIDE CORPORATION
ENGINEERING AND TECHNOLOGY SERVICES
CENTRAL ENGINEERING
SOUTH CHARLESTON, WEST VIRGINIA

December 19, 1985

TO: Mr. G. F. Painter
BUILDING 82-332

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FROM: Jay E. Giffin

SUBJECT: Final Report - Upper Island, South Charleston Plant
Operational Safety/Health Survey

Attached is the final report of the South Charleston Plant Upper Island Operational Safety/Health Survey (OS/HS) performed during the weeks of August 19-23 and 26-30, 1985, by the teams shown on the attached report. Comments on the preliminary report presented to you and other plant management personnel on September 5, 1985 have been received and incorporated into this final version.

Pre-planning for the OS/HS by Upper Island management was outstanding, including pre-survey meetings and compilation of process diagrams for the units surveyed. There were no imminent concerns noted by the team during the survey. There were six major safety concerns and one major health concern as well as a typical number of less serious safety and health concerns.

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OCCUPATIONAL SAFETY/HEALTH SURVEY

UPPER ISLAND

SOUTH CHARLESTON PLANT

SURVEY DATES: AUGUST 19-23 & 26-30, 1985

REPORT DATE: DECEMBER 18, 1985

TEAMS

	SCD* (8/19-8/23)	SCM* (8/26-8/30)
OS/HS Chairman	J. E. Giffin	J. E. Giffin
Health Representatives	R. S. Holmes	G. D. Twait & D. J. Christensen
Fire Protection Representative	C.R. Kees	C. R. Kees
Manufacturing Representative	R. W. Jacobs	R. W. Crowell
Process Engineering Representative	J. W. Ackenhusen	K. A. Dolph
R&D Representative	D. F. Marples	W. C. Liu

*SCD = Specialty Chemicals Division (Ketene & Vinyl Methyl Ether)
*SCM = Solvents and Coatings Materials (Diacetone Alcohol)

Recommendation

Request review by Corporate Toxicology Group through divisional HS&EA group of chronic health effects associated with mesityl oxide exposures. Update MSDS as appropriate.

LH3.3 Cleaning Procedure on Number 3 and Number 4 Still Feed Filters

The number 4 still feed filter does not have a drain valve. The filter elements are sometimes changed with a heel of acetone/diacetone alcohol remaining in the bottom of the filter. The SOP does not cover changing of filter elements. Inhalation and skin contact exposures can occur to personnel while changing filters.

Recommendations

Provide drain on number 4 still feed filter. Add filter change procedures for both number 3 and number 4 still feed filters to the SOP.

LH4.0 General (Ketene, VME, and/or DAA)- SCD, SCM)

LH4.1 Asbestos Insulation

No piping or equipment is labeled to indicate that asbestos-containing insulation is present; however, the age and appearance of the unit as well as reports from unit personnel suggest that some remaining insulation does contain asbestos fibers. The number 5 column and many of the old steam lines, e.g., the steam line on the north side of Building 134, most likely still have asbestos insulation. An analysis of the number 5 kettle insulation conducted by an outside laboratory indicated that it was free of asbestos. The Team observed exposed insulation at number 5 column and in several other locations in the DAA unit. Plant procedures for removing asbestos insulation are reported to be followed when insulation is suspected of containing asbestos; however, the method used by unit personnel, solely by observation, to determine whether insulation contains asbestos or not is not always accurate. Non-asbestos insulation has been used at times to cover asbestos insulation, and asbestos insulation has been re-covered with aluminum so that it appears to be non-asbestos insulation.

Asbestos insulation which has been removed and placed in the appropriate plastic bags apparently has not been disposed of in a prompt manner. Several old bags were found on the roof of Building 149 and between the railroad tracks and Building 133.

Recommendations

Implement a program to identify by lab analysis and label asbestos insulation that is remaining in the unit. Encapsulate or cover all exposed insulation. Consider removal of asbestos insulation from equipment and piping that are no longer used and that have asbestos insulation, to reduce the potential of low-level exposures to all unit personnel.

The Maintenance Department should be contacted, and prompt pickup of bagged asbestos insulation should be arranged.

LH4.2 Specific Chemical Hazard Training

Employee interviews indicated that training on the hazards of individual chemicals used was incomplete, especially for maintenance personnel.

Recommendation

All employees who handle hazardous chemicals should be trained as to the nature of the hazard and the means necessary to protect themselves. These steps will soon be required by OSHA when the final stage of the Hazard Communication Standard goes into effect May 25, 1986. Ensure that training is done for all "Swap" personnel, also. Document all chemical hazard training. Maintain a copy of MSDS Manual in the area maintenance shop for ready access.

LH4.3 Use of Self-Contained Breathing Apparatus

The self-contained breathing apparatus such as the Scott Air Pak is frequently used in non-emergency situations, especially by maintenance personnel, or by operators when unloading tank cars, when a supplied air mask would offer sufficient protection. The Scott Air Pak is heavy and cumbersome and places undue strain on the user; these factors may lead to failure to use it when breathing protection is really needed.

Recommendation

The Scott Air Pak should be restricted to emergency use or entry into potentially immediately dangerous to life or health (IDLH) atmospheres. Airline respirators should be used otherwise to protect against chemical gases and vapors. The Team strongly endorses the Maintenance Department's plan to install banks of air cylinders in the area. Any such installations should meet the requirement of OSHA and UCC