WV-0198 #22

11/10

1. WES

2. [illegible]

Comment ?

SPECIALTY CHEMICALS DIVISION

SOUTH CHARLESTON PLANT ENGINEERING

November 7, 1986

TO: D. A. Gosselin
R. G. Link
S. Rossi
[redacted]
E. D. Southard
J. L. Worstell

CC: W. D. Bradbury
J. R. Dement

SUBJECT: South Charleston Plant
Insulation Upgrade Outline of Project

Gentlemen:

The Insulation Upgrade Outline of Project (O/P) is attached for your review. This plantwide Insulation Asbestos Upgrade Project is a high-priority Safety/Health Program. The total cost is $3.3MM Capital and $1.4MM 838 Expense. Please note that the required Health, Safety, and Environmental review by the Engineering, Manufacturing, and Technology Services Department has been completed and is incorporated into the O/P.

Please return any comments directly to me by November 13. The finalized O/P will then be transmitted by the Director of Engineering to the functional Vice-Presidents for approval.

Please call if you have any questions.

Jim

Looks okay I do question however who will perform the work. Carbide or Contractors

(3469) Wes

Joe

Joseph F. Dodd

PLAINTIFF'S EXHIBIT

UC-4004

UCC 020072

SOUTH CHARLESTON PLANT ENGINEERING
SPECIALTY CHEMICALS DIVISION

OUTLINE OF PROJECT

SOUTH CHARLESTON PLANT

INSULATION UPGRADE

SOUTH CHARLESTON, WV

November 7, 1986

UCC 020073

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OUTLINE OF PROJECT

SOUTH CHARLESTON PLANT

INSULATION UPGRADE

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- o Health, Safety, and Environmental Review by Engineering, Manufacturing, and Technology Services Department
- o Division/Profit Center Cost Allocations Summary

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I. INTRODUCTION

Much of the insulation in the South Charleston Plant is asbestos and is in poor condition. Exposed asbestos presents a safety and health hazard associated with airborne particulate asbestos.

II. SUMMARY

The asbestos insulation throughout the South Charleston must be upgraded to comply with the Occupational Safety and Health Administration (OSHA) standards. The project is estimated to cost $4.7MM over a three-year period: $3.3MM capital and $1.4MM removals 838 expense. The plan is to remove asbestos from idle equipment, replace damaged insulation with an approved type, and seal all remaining asbestos insulation.

This project will be implemented over a three-year period with completion in 1989.

The justification of this project is Occupational Health. The present OSHA Asbestos Standard, 1910.1001, now specifies 0.2 fibers/cc as the maximum allowable exposure over an eight-hour period. The figure refers to fibers greater than five micrometers in length.

III. SPONSOR'S OBJECTIVE

The basic objective of this project is to upgrade the asbestos insulation throughout the South Charleston Plant to comply with OSHA Standards.

Completion

All insulation upgrade to be complete by December 1989.

Project is high priority and must be executed on a continuous basis over the three-year period with only curtailment during the bitter cold winter months.

Safety/Health

All Division Safety/Health Guidelines must be following during asbestos removal/disposal, repair, and covering.

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Government Regulations

Plant will be in compliance with all applicable OSHA and U.S. Environmental Protection Agency (EPA) Regulations at project completion.

IV. FACILITIES

The asbestos insulation upgrade encompasses the following units and the work schedule on a priority basis follows:

Phase 1

No. 2 Steam Plant
Portion Water Treating Unit

Phase 2 (Manufacturing Units)

Chemical Mixing	Polyols
Upper Island	Specialty Catalyst
Mainland	Specialty Chemicals
PVA Resins	Middle Island
Solvent Vinyls	Oxide Adducts

Phase 3

Complete Water Treating Unit
Utility Distribution
Distribution
Bulk Terminal
Maintenance

Some of the work has already been authorized for removing asbestos insulation from idle equipment and lines; the work is not part of this major capital project. These projects are listed below:

Project	Approval	Cost	Status
No. 2 Powerhouse	10/85	$111,000	Complete
Solvent Vinyl Resins	1/86	17,000	Complete
Specialty Chemicals Division Units	1/86	182,000	On-going
Upper Island Chemical Complex	--	26,000	WOR To Dan 10/9/86
Oxide Adducts	--	100,000	WOR to Dan by 11/13/86
	Total	$436,000	

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V. ENVIRONMENTAL PROTECTION/OCCUPATIONAL HEALTH AND SAFETY CONSIDERATIONS

This project will correct an Occupational Health concern by replacing or sealing exposed asbestos insulation throughout the Plant. When the insulation is being replaced or removed, Safety and Health Guidelines will be followed which includes: installing rope barricades and clearing the area of plant personnel, posting of warning signs, proper bagging and disposal of insulation, and monitoring of surrounding work areas. In addition, assuring that contractor personnel adhere to guidelines such as: wet clean-up, wearing of appropriate respirators, wearing and disposal of proper protective clothing, etc.

This project will be in compliance with all applicable OSHA and EPA Regulations. The EPA will be notified that the removal of asbestos insulation could occur at the South Charleston Plant.

The required Health, Safety, and Environmental review of the project was completed on October 30, 1986, by the Engineering, Manufacturing, and Technology Services Department; the project is endorsed contingent upon the following:

1. Maintenance Procedure XVIII Provisions for Asbestos Material Removal and Disposal Safety will be revised to be in compliance with the latest OSHA Standard *29 CFR 1910.1001*.

2. Procedure XVIII will be revised in accordance with the environmental concerns listed in the review.

A copy of the complete review is attached in the Appendix section.

VI. SUPPORTING FACILITIES

A. Distribution

The project will have no effect on Distribution facilities.

B. Energy Systems

The project will have no effect on Energy Systems requirements. However, Energy Conservation will be improved with this insulation upgrade.

C. Safety and Environmental Considerations

See Section V above.

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VII. PROJECT PLAN

The project survey, or scope, was prepared by the Maintenance Department over the last year. The priority of work is shown in the Facilities Section on page 3.

Insulation specification consultation will be supplied by Engineering. Field construction by an outside contractor or the Central Engineering Construction Group, will be supervised by the Maintenance Department. Project Management, including cost control and reporting, will be provided by Plant Engineering.

The project organization follows:

Steering Committee	
Assistant Plant Manager	S. Rossi
Maintenance Superintendent	J. R. Dement
General Project Manager	J. F. Dodd
Project Team	
Maintenance Coordinator/Supervisor	L. B. Hewitt
Project Manager	J. R. Maier

VIII. SCHEDULE

Key dates are:	
Outline of Project Approval	December 1986
CBP Approval	February 1987
Mechanical Completion	December 1989

IX. COST ESTIMATE

A. Summary

	Capital	838 Expense
o Labor	$1,950,000	$1,140,000
o Materials	860,000	50,000
o Engineering/Maintenance*	160,000	70,000
o Contingency	330,000	140,000
Total	$3,300,000	$1,400,000

* Insulation specification consultation, project management and field coordinator of contractor.

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B. Basis for Estimate

The estimate for the Phase I work is based on a detailed scope and budget pricing obtained from a local insulation contractor. The remaining work is based on an insulation survey of each operating unit and estimating the associated man-hours and materials required. The total man-hour estimate is 101,000 hours of work.

C. Cash Flow

	Capital	838 Expense
1987	$1,100,000	$ 466,000
1988	1,100,000	466,000
1989	1,100,000	468,000
Total	$3,300,000	$1,400,000

X. COST ALLOCATIONS TO DIVISIONS

The project costs are allocated to tenant divisions based on the 1987 plant period cost allocations furnished by the Plant Controller. For example, costs for insulation work on steam lines in the Energy Systems area would be allocated plantwide to those profit centers on a steam usage basis. The overall project allocations to divisions follows:

		Costs	
Division	Percent	Capital	Expense
Specialty Chemicals	75.12	$2,479,000	$1,052,000
Solvents & Coatings	21.80	720,000	305,000
Industrial Chemicals	3.08	101,000	43,000
Total	100.00	$3,300,000	$1,400,000

These costs are spread equally over three years (1987, 1988, and 1989). The individual profit center cost breakdown for each division is shown in the Appendix section.

JFD
11/07/86
2301G

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XI. APPENDIX

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BUSINESS CONFIDENTIAL

UNION CARBIDE CORPORATION

ENGINEERING, MANUFACTURING AND TECHNOLOGY SERVICES DEPARTMENT
HEALTH, SAFETY AND ENVIRONMENTAL TECHNOLOGY
SOUTH CHARLESTON, WEST VIRGINIA

MEMORANDUM

October 30, 1986

TO: Mr. J. R. Dement
Mr. J. F. Dodd
Mr. D. A. Gosselin
Mr. R. L. Foster
Mr. E. D. Southard

COPY: Mr. W. D. Bradbury
Dr. P. R. Kavasmaneck
Dr. D. Liebeskind
Mr. R. R. Rankin
Mr. S. Rossi
Mr. A. D. Williamson

FROM: H. W. Wegert
G. M. Whipple

SUBJECT: Health, Safety, and Environmental Review
Insulation Upgrade Project, South Charleston

This Health, Safety, and Environmental review was based on the draft Outline of Project and the South Charleston Plant Maintenance Procedure XVIII Provisions for Asbestos Material Removal and Disposal Safety. Attached are the applicable Summary Checklists; the Project Safety Summary Checklist was not included as no product is produced as a result of this project.

The review was conducted by qualified engineers from CEO's Health, Safety and Environmental Technology Section. Endorsement of the project is recommended contingent upon the items listed at the end of this memo. Written response to the contingency items by project personnel is requested prior to start of work in the field.

This project will upgrade asbestos insulation in the South Charleston Plant over the next three years. Much of the asbestos insulation in the plant is in poor condition and presents a potential exposure problem for plant personnel. The plan is to remove asbestos insulation from idle equipment, replace damaged asbestos insulation with an approved type, and seal all remaining asbestos insulation.

This project will be executed in accordance with all applicable OSHA and EPA Regulations and the South Charleston Plant procedure for handling asbestos material. The EPA will be notified that the removal of asbestos insulation could occur at the South Charleston Plant.

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The plant procedures for asbestos material removal and disposal safety was reviewed by CED Health Technologist Terry Hanning. The procedure should be revised in accordance with Terry's comments (see attached memo) for conformance with OSHA 29 CFR 1910.1001.

Additional comments on this procedure from an environmental viewpoint are:

- The procedure does not refer to review of State Air Pollution Regulation No. 15 which deals with notification of the West Virginia Air Pollution Commission.
- The procedure does not refer to state requirement to notify the West Virginia Department of National Resources before land filling.
- The procedure does not refer to NESHAPS 40 CFR 61.152 (Disposal Container labels) or 40 CFR 61.156 (Warning Signs at Landfill). However, the procedure does refer to OSHA warning label requirements and these are probably equivalent to the NESHAPS requirements. The procedure should clarify this issue, particularly the signs required at the landfill.

Based on review of the draft Outline of Project and Maintenance Procedure XVIII, endorsement of the project is recommended contingent upon the following:

1. Maintenance Procedure XVIII Provisions for Asbestos Material Removal and Disposal Safety be revised to be in compliance with the latest OSHA Standard 29 CFR 1910.1001 per Terry Hanning's memo.
2. Procedure XVIII be revised in accordance with the environmental concerns listed above.

Harvey W. Wegert
H. W. Wegert

Gary M. Whipple
G. M. Whipple

HWW:GMW:mw
6536D

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HS&E REVIEW SUMMARY

Reviewers

EP - L. K. (Linda) Scholl, Senior Chemist in CED's Land Disposal Technology Group

HS - H. W. (Harvey) Wegert, Group Leader of CED's Safety & Fire Protection Technology Group

Project Data

a. Material Balance - Not applicable

b. Environmental Releases - Asbestos removal wastes will be landfilled.

c. Governmental Requirements - HS&E regulations that apply to this project include OSHA 29 CFR 1910.1001, 1928.54 W. Va. State Air Pollution Regulation No. 15, and NESHAPS 40 CFR 61.152 & 156.

d. Corporate HS&E Policy Requirements - No variances are required.

e. Project Reviews

- o Process Safety/Health Review - Not applicable
- o Safety/Health Review Board - Not applicable
- o Pre-startup Safety/Health Review - Not applicable

Concerns

There are no HS&E concerns that had not been adequately discussed in the checklists or the endorsement review memo.

HWW:GMW:mw
60010

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UNION CARBIDE CORPORATION

ENGINEERING, MANUFACTURING AND TECHNOLOGY SERVICES DEPARTMENT
HEALTH, SAFETY AND ENVIRONMENTAL TECHNOLOGY
SOUTH CHARLESTON, WEST VIRGINIA

MEMORANDUM

October 28, 1986

TO: Mr. M. W. Wegert

COPY: Mr. S. W. Clark
Mr. J. F. Dodd
Mr. D. A. Gosselin
Dr. P. R. Kavasmaneck
Mr. J. E. Neff

FROM: T. E. Manning

SUBJECT: Review of South Charleston Plant Procedures
Removal and Disposal of Asbestos Materials

The following updates/changes apply to the 514 Maintenance Department's procedure for handling and disposal of asbestos insulation:

Definitions

1. The OSHA allowable limit for personnel exposure to asbestos was revised in July 1986.

2. The 8-hour time-weighted average for asbestos shall not exceed 0.2 fibers, longer than five micrometers, per cubic centimeter of air.

3. There is no ceiling concentration in the revised standard.

4. The revised standard calls for an action level of 0.1 fibers, no longer than five micrometers, per cubic centimeter of air. This level triggers monitoring, medical, and employee information and training requirements.

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Overview of Procedure

1. The warning signs mentioned in Item 4 should state:

   DANGER - ASBESTOS:
   CANCER AND LUNG DISEASE
   HAZARD-AUTHORIZED PERSONNEL ONLY:
   RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
   IN THIS AREA

2. Item 7 should be expanded to read: Remove asbestos to special containers for handling/disposal. These containers should be properly labeled as follows:

   DANGER - CONTAINS ASBESTOS FIBERS:
   AVOID CREATING DUST;
   CANCER AND LUNG DISEASE HAZARD.

   Disposal containers should be leak-tight and discarded in an approved landfill.

3. Item 6 should be expanded to state: Where feasible, the employer shall establish negative-pressure enclosures before commencing removal, demolition, and renovation operations.

Respirators

Disposable (throw away) respirators are not permitted under the July 1986 asbestos revision. Respirators are to be selected by the following scheme.

Airborne Concentration	Required Respirator
1. Not in excess of 2.0 f/cc (10 X PEL)	1. Half-mask air-purifying respirator equipped with high-efficiency filters.
2. Not in excess of 10.0 f/cc (50 X PEL)	1. Full-facepiece air purifying respirator equipped with high-efficiency filters.
3. Not in excess of 20 f/cc (100 X PEL)	1. Any powered air-purifying respirator equipped with high efficiency filters. 2. Any supplied-air respirator operated in continuous flow mode.
4. Not in excess of 200 f/cc (1000 X PEL)	1. Full facepiece supplied-air respirator operated in pressure demand mode.

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5. Greater than 200 f/cc (greater than 1000 X PEL or unknown concentration)	1. Full facepiece supplied-air respirator operated in pressure demand mode equipped with auxiliary positive pressure self-contained breathing apparatus.

OSHA has also required that employers provide powered air-purifying respirators for employees who request them for concentrations of asbestos-fibers less than 100 times the PEL. This recognizes that the proper use of respirators may depend on the worker's comfort and preference for various types of respirators.

Work Area Precautions

Warning signs should contain the same message as stated in Number 1 under Overview of Procedure in this letter.

Wet Cleanup

Any asbestos insulation left in place will contain a visible label, where feasible. The label will contain the same information as stated in Number 2 under Overview of Procedure in this letter.

Clothing Storage

Two separate lockers or containers shall be provided each employee, so separated or isolated as to prevent contamination of the employee's street clothes from his work clothes. Employees exposed to asbestos during their work shift must shower before leaving the plant and must not leave wearing contaminated work clothing. Employees working in asbestos areas must have ready access to filtered air lunchrooms and must wash their face and hands prior to eating or smoking. Protective clothing must not be worn in the lunchroom unless cleaned beforehand.

We question the use of vacuums to clean asbestos - contaminated clothing unless high-efficiency filters are attached to the vacuum exhaust. This action could also prevent an employee from properly disposing his clothing after a designated work period.

Laundering

Caution labels will contain the same information as stated in Number 2 under Overview of Procedure in this letter.

Disposal by Trucking

Under RCRA truck drivers do not need a properly filled-out manifest for asbestos disposal.

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References

The 1972 standard is redesignated as 29 CFR 1910.1101 to distinguish it from the revised standard for general industry which is designated as 29 CFR 1910.1001. Asbestos information for construction activities is under 29 CFR 1926.58.

Terry E. Hanning

Terry E. Hanning

TEH:mw
62840

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UCC 020088

UNION CARBIDE CORPORATION
CAPITAL PROJECT PROPOSAL
RISK CHECKLIST

	ENVIRONMENTAL	YES	NO	OTHER	COMMENTS:
1	General				
1.1	Does the geographic location of the project present any potential interstate or international air pollution liabilities or unusual water pollution liabilities?	☑	☐	☐	1.1 Asbestos is a hazardous air pollutant. Location of plant is responsible for any impact. Permit application Review will assure adequate precautions for control of handling will be followed to minimize airborne emission. Monitoring will be performed to confirm air control actions.
1.2	Is the proposed project or site to be located within 1/2 mile of any existing or potential drinking water source?	☑	☐	☐	1.2 - See 1.1 above.
1.3	Will the project have an adequate buffer zone between the air emissions sources and offsite residences or facilities?	✓	☐	☐	
1.4	Will the facility be staffed, or have readily available, personnel fully aware of the environmental consequences of operational problems and trained to implement timely and proper response actions?	✓	☐	☐	
1.5	Are any of the residuals from either environmental discharges or disposed wastes resulting from operation of the completed project believed to be a potential subject of future governmental rulemaking that would cause future unfavorable economics or publicity for the project, location, or Corporation?	☐	✓	☐	
2	Design				
2.1	Is process technology design derived from either proven commercial-scale facilities or six months or more of successful pilot-scale operations?	☐	☐	☑	2.1 - NA
2.2	Will proposed air emissions require offsets or exceed available increments in the Air Quality Control Region?	☐	✓	☐	2.3 NA
2.3	Will wastewater discharges be restricted by water quality limits of the receiving stream or by the capacity of a Publicly-Owned Treatment Works (POTW)?	☐	☐	☑	

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		YES	NO	OTHER	COMMENTS:
2.4	Are there any plans to dispose of wastewater by underground injection?	☐	☑	☐	
2.5	Have all hazardous waste conservation/minimization alternatives been reviewed and used where feasible?	☑	☐	☐	
2.6	Are there any treatment, storage, disposal design plans that have not been reviewed to assure conformance with Federal, State, and Local regulations?	☑	—	☐	2.6 - OSHA regs have been reviewed. Plan does not discuss NESHAPS. State regs (reg. 15-) require notification of State APC.
2.7	Has facility design minimized the generation of air and water pollution and residue streams to the extent consistent with "best available technology" as defined by EPA or, where more stringent, UCC guidelines?	☑	☐	☐	
2.8	Has the design inventory of hazardous and toxic chemicals been minimized to the extent practicable?	—	☐	☑	2.8 NA
2.9	Does the project design satisfy the restrictions imposed by the UCC Air Toxics Control Policy for both continuous emissions and episodic releases?	☑	☐	☐	
2.10	Will secondary containment be provided for all new oil and chemical handling or storage areas?	—	☐	☑	2.10 NA
2.11	Will underground storage tanks be used for this project?	☐	☑	☐	
3	**Wastes, Emissions**				
3.1	Have all significant air emissions and water discharges been identified and described with respect to quantity and composition? (Consider start-up and shut-down conditions and abnormal operating conditions.)	☑	☐	☐	3.2 NA
3.2	Have all proposed hazardous waste streams been identified?	—	☐	☑	3.3 See 1.1 and 2.6 Regulations have been reviewed and Project Work Plans specifies
3.3	Do proposed air emissions contain any material classified as hazardous under federal, state, or local regulations?	☑	—	☐	compliance tasks except for notification of WV APC and WV DNR prior to landfilling.

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		YES	NO	OTHER	COMMENTS:
3.4	Do proposed wastewater discharges contain any substances on EPA's priority pollutant list or on EPA's list of toxic materials?	☐	—	☑	3.4 NA
3.5	Are any proposed wastes classified as hazardous under Federal, State, or Local regulations?	☑	—	☐	3.5 See 1.1, 2.6, and 3.3
3.6	Will the total quantity of hazardous waste generated at the site be more than 100 kilograms per month?	☐	✓	☐	3.6 Work will generate intermittent amounts of waste over a 3-year period.
3.7	Is there a high degree of confidence that the predicted composition and quantities of air and water pollutants and residues generated from operation of the project has not omitted any chemical more toxic than those listed and has not understated any quantities by more than 50%?	✓	☐	☐	None to follow.
3.8	Do the discharges which reach the air or receiving water from this project constitute a predicted increase of more than 10% in the present environmental level of any hazardous or regulated constituent and/or to more than 50% of the acceptable environmental level?	☐	✓	☐	3.8 Project work plan specifies pollutant release minimization activities and air monitoring during work.
4	**Compliance**				
4.1	If the project is associated with an existing facility, has the facility experienced any incidents of non-compliance with air emission permits or with waste-water discharge permit requirements or received any air pollution related citizen complaints in the past 12 months?	☐	—	☑	4.1 None that apply to this project
4.2	Are there any Compliance Orders or other legal actions that affect the existing site or operation?	☐	—	☑	4.2 " " " " " "
4.3	Will the predicted air and water discharges from operation of the completed project comply with all applicable governmental rules?	✓	☐	☐	
4.4	Will the planned storage, treatment and disposal of hazardous wastes comply with all applicable governmental rules or, where more stringent, UCC guidelines?	✓	☐	☐	4.4 Provisions are outlined in Project work plan.
4.5	Are modifications to an existing or an entirely new Spill Prevention, Control, and Containment (SPCC) Plan required?	☐	✓	☐	5.1 No modifications required.
5	**Permits**				
5.1	Have all required air emission and wastewater discharge permits and permit modifications been identified?	✓	☐	☐	

Any answer in brackets requires explanation under "Comments" (continued on separate pages if necessary). Use "NA" where question is not applicable.

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UCC 020091

		YES	NO	OTHER
5.2	Will a RCRA Part B Permit Application or modification of an existing Part B Permit be necessary?	☐	☑	☐
5.3	Are any delays in construction or operation startup likely due to permitting requirements?	☐	☑	☐
6	**Monitoring**			
6.1	Is ambient or background air quality monitoring data available for the past 12 months at the project site or facility?	☑	☐	☐
6.2	If there are proposed wastewater discharges to surface water, is background water quality data available?	☑	☐	☐
6.3	Is there presently any known or suspected ground water contamination at the project site or facility?	☐	—	☑
6.4	Would additional soil or ground water monitoring be required to demonstrate that the project site or facility is not a source of contamination?	☐	—	☑
7	**Control Systems**			
7.1	Are air and water pollution or hazardous waste control and treatment facilities designed to meet applicable governmental technological levels or, where more stringent, UCC requirements?	☑	☐	☐
7.2	Do any proposed air emissions sources or wastewater discharges require new control systems or upgrading of existing systems?	☐	☑	☐

COMMENTS:

6.1 Not applicable to this project

6.2 no proposed waste water discharges are associated with the work with the exception of some possible wash water — this water is not regulated.

6.3 Not applicable

6.4 NA

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UCC 020092

		YES	NO	OTHER
7.3	Will the project necessitate the treatment, storage, or disposal of hazardous waste, either onsite or offsite?	☑	☐	☐
8	**Plant Site Expansion**			
8.1	Are there any inactive or active waste storage, treatment or disposal facilities located on the new plot?	☐	☑	☐
8.2	Are there on-going or past site investigations and/or remedial actions for present and past solid and hazardous waste units that pose(d) a significant threat of release of hazardous constituents to the environment?	☐	☑	☐
8.3	Is there any material containing PCBs located on the new plot?	☐	☐	☑
8.4	Are underground storage tanks located on the new plot?	☐	☐	☑
8.5	Does the new plot contain U.S. Coast Guard designated wetlands?	☐	☑	☐
8.6	Are buildings or other structures containing asbestos going to be razed?	☐	☑	☐

L. K. Scholl
Reviewer

10/24/86
Date

COMMENTS:

7.3 Removed material will be disposed of at Goff Mountain Landfill. All applicable DOT regs for transporting material and OSHA regs will be followed. Need to specify 40CFR 61.152.b + 61.156

8.3 NA

8.4 NA

8.6 No buildings razed; asbestos will be removed and replaced or immobilized.

01720

Any answer in brackets requires explanation under "Comments" (continued on separate pages if necessary). Use "NA" where question is not applicable.

01720

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UNION CARBIDE CORPORATION
CAPITAL PROJECT PROPOSAL
HSE CHECKLIST

SAFETY AND HEALTH	YES	NO	OTHER	COMMENTS:
1. General				1.1 Asbestos will be handled in the construction phase of this project. Asbestos is a carcinogen.
1.1 Will toxic, flammable, corrosive, or otherwise hazardous substances be transported, stored, processed, or produced as the result of this project.	(✓)	___	(__)	
1.2 Will any unusual physical hazards be present in the facility?	(__)	✓	(__)	
1.3 Are any substances handled that could cause an explosion if heated, contaminated, concentrated, or otherwise mishandled?	(__)	✓	(__)	
1.4 Is all necessary safety and health data known for each substance handled?	✓	(__)	(__)	
1.5 Do up-to-date Material Safety Data Sheets exist for each substance handled?	✓	(__)	(__)	
1.6 Will this project introduce new chemicals that are highly reactive with other chemicals already handled in the plant?	(__)	✓	(__)	
2. Compliance				2.1 OSHA has recently revised its regulations regarding handling of asbestos insulation. These should be incorporated into the procedures.
2.1 Will any additional safety or health programs be required under OSHA regulations?	(✓)	___	(__)	
2.2 Have all Department of Transportation requirements been identified for all substances that will be shipped?	___	(__)	(✓)	2.2 Not applicable
2.3 Are there any proposed changes to safety and health regulations that could impact this new activity?	(__)	✓	(__)	2.4 OSHA 29 CFR Part 1910.1001 requirements must be followed in the execution of the construction phase of this project
2.4 Will any of the following be required to comply with safety and health regulations:				
a) exposure monitoring?	(✓)	___	(__)	
b) engineering controls?	(__)	✓	(__)	

Any answer in brackets requires explanation keyed to the question number under "Comments" (continued on separate pages if necessary). Use "NA" where question is not applicable.

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		YES	NO	OTHER	COMMENTS:
	c) personal protective equipment?	(✓)	___	(__)	
	d) special medical examinations or surveillance activities?	(__)	✓	(__)	
	e) special safety operating or maintenance procedures?	(✓)	___	(__)	
2.5	Will employees need supplemental training beyond normal corporate programs to assure safe operation?	(__)	✓	(__)	
2.6	Will any variances to UCC Safety/Health Standard Practices be required?	(__)	✓	(__)	
2.7	Are there any state or local regulations that supercede federal safety and health regulations?	(__)	✓	(__)	
2.8	Are all chemicals handled included in the Toxic Substances Control Act inventory?	✓	(__)	(__)	
3.	Public Impact				
3.1	Are relief device discharges controlled such that no releases to the atmosphere can occur that would have adverse impact on the public?	___	(__)	(✓)	3.1, 3.2, 3.3 Not applicable
3.2	Could any process upset or other emergency situation occur in this facility (explosion, spill, etc.) that would impact on the health and safety of the public?	(__)	___	(✓)	
3.3	Are the existing or planned monitoring, detection, and/or alarm systems for release of toxic chemicals adequate?	___	(__)	(✓)	
4.	Facility Design				
4.1	Will chemicals or other hazardous materials be handled under extremes of temperature or pressure (i.e. temperatures above 400°C or pressure over 500 psi)?	(__)	✓	(__)	
4.2	Will there be any potential ignition sources associated with this project?	(__)	✓	(__)	

Any answer in brackets requires explanation keyed to the question number under "Comments" (continued on separate pages if necessary). Use "NA" where question is not applicable.

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UCC 020095

		YES	NO	OTHER	COMMENTS:
4.3	Will recognized industry practices be followed in the layout of the facility?	___	(__)	(✓)	4.3, 4.4 Not applicable
4.4	Will pressure vessels and storage tanks meet all performance standards and federal, state, and local laws and regulations and will all piping, valves, safety valves, and fittings meet all recognized industry standards?	___	(__)	(✓)	4.5 Not applicable
4.5	Will all normal project safety and health reviews be performed?	___	(__)	(✓)	4.6 Not required
4.6	Has the need for any process risk studies been determined?	(✓)	(__)	(__)	
4.7	Would the loss of any utility create a possible hazardous situation?	(__)	✓	(__)	4.8, 4.9, 4.10 Not applicable
4.8	Has the need for flammable gas detectors been determined?	(__)	(__)	(✓)	
4.9	For reaction systems, is any reaction sufficiently exothermic to result in a runaway reaction under any conceivable operating conditions?	(__)	___	(✓)	
4.10	Is this a new process or does it incorporate process technology new to this plant site?	(__)	___	(✓)	

Any answer in brackets requires explanation keyed to the question number under "Comments" (continued on separate pages if necessary). Use "NA" where question is not applicable.

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		YES	NO	OTHER	COMMENTS:
4.11	Are process monitoring and control devices adequate?	___	(__)	(✓)	4.11 thru 5.2 Not applicable
4.12	Can the use of automation or advanced process control be increased to reduce the risks of employee exposures?	(__)	___	(✓)	
4.13	Will water spray protection be provided for processing, storage, and distribution areas in accordance with UCC criteria?	___	(__)	(✓)	
4.14	Are fire water supplies and distribution systems adequate to provide sufficient fire water to this facility?	___	(__)	(✓)	
5.	Emergency Response				
5.1	Will special fire and emergency response equipment, personnel, or procedures be required for this facility?	(__)	___	(✓)	
5.2	Will this project require any changes in Community Evacuation plans?	(__)	___	(✓)	

H. W. Wegert
Reviewer

10-24-86
Date

0738C/0739C

Any answer in brackets requires explanation keyed to the question number under "Comments" (continued on separate pages if necessary). Use "NA" where question is not applicable.

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COST ALLOCATIONS TO TENANT DIVISIONS (Continued)

PROFIT CENTER	PROJECT ALLOCATION PERCENT	COST ALLOCATION, M$ CAPITAL	EXPENSE
INDUSTRIAL CHEMICALS DIVISION			
108	0.03	1.0	0.4
156	0.26	8.4	3.6
160	0.04	1.3	0.5
161	0.15	5.0	2.1
170	1.74	57.0	24.3
174	0.86	28.3	12.1
SUB TOTAL	3.08	101.0	43.0
TOTAL PROJECT	100.0	3300.0	1400.0

11/07/86
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INSULATION UPGRADE PROJECT
SOUTH CHARLESTON PLANT
COST ALLOCATIONS TO TENANT DIVISIONS

PROFIT CENTER	PROJECT ALLOCATION PERCENT	COST ALLOCATION, M$ CAPITAL	EXPENSE
SPECIALTY CHEMICALS DIVISION			
139	5.86	193.4	82.0
143	3.27	107.9	45.8
147	5.59	184.5	78.3
162	15.00	495.0	210.2
165	3.30	108.9	46.2
175	6.20	204.6	86.8
184	4.68	154.4	65.5
337	0.03	1.0	0.4
351	5.66	186.8	79.2
353	20.55	678.1	287.9
384	4.67	154.1	65.4
399	0.13	4.3	1.8
423	0.15	5.0	2.1
531	0.03	1.0	0.4
SUB TOTAL	75.12	2479.0	1052.0
SOLVENTS AND COATINGS DIVISION			
106	0.03	1.0	0.4
122	0.32	10.6	4.5
163	1.32	43.6	18.5
181	0.49	16.2	6.9
188	0.22	7.3	3.1
270	0.45	14.9	6.3
271	0.39	12.9	5.5
279	0.01	0.3	0.1
304	0.38	12.5	5.3
307	0.36	11.9	5.0
309	0.03	1.0	0.4
311	0.15	5.0	2.0
313	0.33	10.9	4.6
314	1.26	41.6	17.6
315	0.30	10.0	4.2
316	0.12	4.0	1.7
324	0.74	24.4	10.4
326	0.63	20.8	8.8
331	0.26	8.6	3.6
332	0.47	15.5	6.6
333	0.17	5.6	2.4
381	12.25	404.4	171.5
485	1.06	35.0	14.8
486	0.03	1.0	0.4
639	0.03	1.0	0.4
SUB TOTAL	21.80	720.0	305.0

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