



DOW CHEMICAL U.S.A.

PLAINTIFF'S EXHIBIT

DOW-2094

December 10, 1985

TEXAS OPERATIONS
FREEPORT, TEXAS 77541

Mr. Steve Peirce
Texas Air Control Board
5555 West Loop Suite 300
Bellaire, Texas 77401

**NOTIFICATION OF INTENT TO RENOVATE ACCORDING TO EPA NATIONAL
EMISSIONS STANDARD 40 CFR 61**

- (i) Name and address of owner: The Dow Chemical Company
Texas Operations
Freeport, Texas 77541
- (ii) Description of Process: Magnesium metals process
estimated to have been in service 45 years.
- (iii) Quantity of Asbestos: Approximately 25000 square feet
of asbestos material as estimated from structural
dimensions.
- (iv) Location: Texas Operations, A-600
- (v) Starting Date: January 27, 1986
Completion Date: December 31, 1986
- (vi) Nature of Renovation: Deteriorated asbestos
containing fire proofing will be removed from a
process structure.
- (vii) Procedure to be followed: Appropriate area will be
barricaded and proper signs will be posted. The
proper safety equipment will be used. Insulation will
be wet down, then placed in impermeable containers.
Proper labeling will be attached.
- (viii) Disposal Site: The Dow Chemical Company, Freeport,
Texas.

R. E. Snelgrove

R. E. Snelgrove
Environmental Services

jlj

xc: R. L. Daniel, B-101
D. D. Worman, B-101
J. Adame, A-650

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

**Quality
Performance**
Means More At Dow.

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DOW CHEMICAL U.S.A.

LRC

December 5, 1985

TEXAS OPERATIONS
FREEPORT, TEXAS 77541

MAG I PERSONNEL

RE: Renovation of Deteriorated Transite

In the past few days we found out that we have some deteriorated transite material at the top of the ceilings, on all four buildings at Mag I. This material has been there for about forty (40) years and at the present time it does not represent a health hazard.

In accordance with Dow policies, we are going to remove this asbestos containing material for two reasons:

- A. It is a potential health hazard because it contains asbestos.
- B. It is a safety hazard; material is so old that it is falling in pieces.

We are in the process of developing the procedures to perform this job. The maintenance crew that will perform this job, operators and Mag I personnel, will be properly trained to handle this job or to work around areas where asbestos is being removed. The disposal of the transite materials will be through Environmental Operations.

Renovation will start some time at the end of January and will be scheduled so as to be compatible with normal plant operations.

Folks, we are not in a dangerous situation, these operations are being performed routinely at the Texas Division.

If you have any questions regarding this matter, please contact myself, Kathy Smith or Melanie Smyth.

Jaime H. Adame
Env. Ramrod
Mag I
4910

Kathy Smith
Safety Foreman
Mag I
0497

Melanie Smyth
Industrial Hygiene
5038

maj



AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY



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ST0461149

RENOVATION OF TRANSITE ASBESTOS CONTAINING MATERIAL

PURPOSE

ASBESTOS AWARENESS

SAFE WORK PROCEDURE

ASBESTOS SAFETY CHECK LIST

PURPOSE

TO DESCRIBE SAFE HANDLING PROCEDURES FOR ASBESTOS MATERIALS USED IN TEXAS DIVISION. THE INTENT IS TO CONTROL THE EXPOSURE OF PEOPLE TO ASBESTOS DUST THROUGH THE PROPER USE OF SAFE WORK PROCEDURES WHILE REMOVING THE TRANSITE MATERIALS AT MAG 1.

ASBESTOS AWARENESS

ASBESTOS HAS BEEN WIDELY USED AS INSULATION, STRUCTURAL WALL BOARD, ROOFING MATERIAL, ETC. THE TRANSITE THAT WE ARE ABOUT TO REMOVE IS AN ASBESTOS CONTAINING MATERIAL THAT WAS INSTALLED 45 YEARS AGO WHEN THE PLANT WAS BUILT. DOW IS COMMITTED TO COMPLYING WITH OR DOING BETTER THAN GOVERNMENT REGULATIONS, AS NEEDED TO PROTECT THE HEALTH OF OUR EMPLOYEES. THE FOLLOWING SAFE WORK PROCEDURES REFLECT THESE POLICIES.

SAFE WORK PROCEDURE

TO: MAINTENANCE CREW PERFORMING THE JOB

SUBJECT: REMOVAL OF TRANSITE ASBESTOS CONTAINING MATERIAL AT MAG 1

TOOLS AND MISCELLANEOUS EQUIPMENT NEEDED

MOTORIZED SCISSOR LIFT
PORTABLE GARDEN SPRAYER
PRYBAR
FIBER FRAX TO COVER CELL
CENTER WELL COVER
POLYETHYLENE PLASTIC
YELLOW TAPE
DUMPSTER TO DISPOSE OF THE ASBESTOS

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MINIMUM SAFETY EQUIPMENT REQUIRMENTS:

- A.-HARD HAT
- B.-SIDE SHIELDS OR MONOGGOGLES
- C.-APPROVED FULL FACE MASK MUST BE WORN DURING MATERIAL REMOVAL AND ALSO DURING CLEAN UP.
- D.-DISPOSABLE PAPER COVERALLS MUST BE WORN DURING REMOVAL AND CLEAN UP OPERATIONS. THEY WILL BE DISPOSED OF DAILY BY PLACING THEM INSIDE SEALED PLASTIC BAGS AND SENT TO THE DESIGNATED ASBESTOS LAND FILL.
NOTE: UNDER NO CIRCUMSTANCES ANY OF THIS COTAMINATED CLOTHING CAN BE TAKEN HOME.
- E.-RUBBER BOOTS ARE REQUIRED AND MUST BE WASHED BEFORE LEAVING THE ISOLATED AREA.
- F.-SAFETY BELT.
- G.-COTTON GLOVES

JOB PROCEDURE

OBTAIN SAFE WORK PERMIT FROM SHIFT FOREMAN

- 1.- FILL THE ASBESTOS SAFETY CHECK LIST EVERY DAY PRIOR JOB START UP.
- 2.-COVER WELLS ON THE FOUR CELLS THAT ARE TO BE YELLOW TAPED.
- 3.-MOVE SCISSOR LIFT INTO PROPER POSITION. THEN COVER THE FLOOR WITH POLYETHYLENE PLASTIC UNDER THE WORKING AREA TO CONTAING FALLING TRANSITE.
- 4.-YELLOW TAPE FOUR CELLS AT A TIME AND PLACE CAUTION SIGNS AT THE BOUNDARIES OF THE ISOLATED WORK AREA TO WARN OF ASBESTOS REMOVAL WORK AND POSSIBLE PRESENCE OF ASBESTOS DUST.
- 5.-SHUT OFF THE FAN ABOVE THE CELL WHERE JOB IS BEING PERFORMED.
- 6.-AVOID BREATHING ASBESTOS DUST. MAKE SURE THAT APPROVED FULL FACE MASK AND PROPER CARTRIDGE IS AVAILABLE AND THAT THE PROPER USE OF THIS EQUIPMENT IS UNDERSTOOD. ALSO PUT ON PAPER COVERALLS AND GLOVES.
- 7.-KEEP ALL PERSONNEL, NOT DIRECTLY INVOLVED IN THE TRANSITE REMOVAL WORK, AWAY FROM THE AREA. ANY ONE REQUIRED TO WORK IN THE ISOLATED AREA MUS FIRST BE ADVISED OF THE POTENTIAL HEALTH HAZARDS AND MUST OBSERVE THE MINIMUM SAFETY REQUIREMENTS FOR ASBESTOS RELATED WORK.
- 8.-POLYETHYLENE PLASTIC NEEDS TO BE FOLDED BACK AND REMOVAL OPERATIONS NEED TO BE HALTED IF THERE IS A NEED FOR OPERATING PERSONNEL TO CROSS THE TAPED AREA. PERSONNEL WORKING OUTSIDE TAPED AREA OR JUST CROSSING BY, DO NOT NEED TO WEAR SPECIAL SAFETY GEAR.

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- 9.-USE WATER SPRAY TO WET DOWN THE MATERIAL BEFORE, DURING AND AFTER REMOVAL AS NECESSARY TO PREVENT AIRBORN EMISSIONS. AVOID HIGH PRESSURE BLASTING, USE A PORTABLE GARDEN SPRAYER. AVOID OVER WETTING TO THE POINT THAT THE MATERIAL CRUMBLES AND TURNS INTO MUSH. AVOID PUTTING FREE WATER ON TOP OF CELL.
- 10.-CAUTION!! SLIPPING OR FALLING IS A HAZARD TO BE CONSIDERED WHEN WORKING AROUND WET ASBESTOS, SPECIALLY AROUND THE POLY PLASTIC.
- 11.-AVOID SAWING AND DRILLING OF THE TRANSITE TO KEEP AIRBORN EMISSIONS TO A MINIMUM. TRY TO BREAK THE MATERIAL INSTEAD.
- 12.-MATERIAL MUST NOT BE DROPPED TO THE GROUND. UPON REMOVAL THE MATERIALS WILL BE PLACED DIRECTLY INTO POLYETHYLENE BAGS. THIS WILL PREVENT THE SCATTERING OF ASBESTOS DUST THROUGHOUT THE WORK AREA.

BAGS NEED TO BE LOWERED FROM THE WORKING AREA TO THE FLOOR USING POLY ROPE. THEN THE BAGS CAN BE LOWERED THE SAME WAY FROM THE FLOOR THROUGH THE WINDOW TO THE DESIGNATED COLLECTION DUMPSTER LOCATED BETWEEN BUILDINGS. ENVIRONMENTAL SERVICES WILL DISPOSE OF THE MATERIAL PROPERLY.
- 13.-ALONG WITH THE WET ASBESTOS ALL CONTAMINATED MATERIAL MUST BE WETTED AND PLACED IN LABELED AND POLYETHYLENE BAGS.
- 14.-AT THE END OF THE WORK DAY, ROLL UP THE POLYETHYLENE SHEET SO THAT THE ASBESTOS CONTAMINATED SIDE IS FOLDED IN ON ITSELF. THEN, THE POLYETHYLENE SHOULD BE PUT INTO AN ASBESTOS DISPOSAL BAG AND LOWERED INTO THE COLLECTION DUMPSTER.
- 15.-AT THE END OF OF EACH WORKDAY A THOROUGH INSPECTION OF THE WORK AREA MUST BE MADE TO REMOVE ALL ASBESTOS MATERIALS.

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SECTION V

ASBESTOS SAFETY CHECK LIST

JOB DESCRIPTION: TRANSIT REmoval DS DATE 1/27/86
 LOCATION _____

PRE-JOB REQUIREMENTS:

1. Environmental Services Contacted (ph. 1505)? Yes X No _____
 Name: Randel Snellgrove Date: _____
 Dow Project Supervisor: Allen J. Allen
2. Safe Work Procedure Written? Yes ✓ No _____ Date: 1/22/86
3. Project Review Held? Yes ✓ No _____
 Industrial Hygienist: Malcolm D. Smith Date: 1/22/86
 Safety Director: W. V. Vannoy Date: 1-24-86
 Craftsmen: _____ Date: _____

	YES	NO
Safe Work Procedure Approved:	<u>✓</u>	_____
Hygiene Monitoring Required:	<u>✓</u>	_____
Audit Required:	<u>✓</u>	_____
Auditor Assigned: <u>Malcolm D. Smith</u> Phone: <u>238-8238</u>		_____

JOB REQUIREMENTS:

- | | YES | NO |
|---|----------|---------------------|
| 1. Safe Work Procedure reviewed: | <u>✓</u> | _____ |
| 2. Area taped off and signs up to warn others: | <u>✓</u> | _____ |
| 3. Have all involved personnel been informed? | <u>✓</u> | _____ |
| 4. Block personnel informed? | <u>✓</u> | _____ |
| 5. Auditor notified: | <u>✓</u> | _____ |
| 6. Water available to control dust: | <u>✓</u> | _____ |
| 7. Has disposal of asbestos debris been arranged? | <u>✓</u> | _____ |
| 8. Arrangements for clean-up made? | <u>✓</u> | _____ |
| 9. Safety Equipment Required | | |
| <u>✓</u> Disposable Coveralls with Hood | <u>✓</u> | Side Shield Glasses |
| <u>✓</u> Dust Respirator | <u>✓</u> | Rubber Boots |
| Other: See Safe Work Permit | | |

NOTE: Work may commence when Safe Work Permit issued.

10. Final clean up complete (all traces of asbestos removed) Yes _____ No _____
11. Job Complete: Dow Project Supervisor: _____ Date: _____
12. Send completed Checklist to Industrial Hygiene Services - B-101.

1/22 DEMPSTER
WORK ORDER

ST0461154

REMOVING TRANSITE ASBESTOS CONTAINING MATERIAL
FROM CELL BUILDING CEILINGS

I. PURPOSE

Through the proper use of safe work procedures minimize and control the exposure of personnel to asbestos dust while removing the transite asbestos containing materials at Mag I.

SAFETY & QUALITY ANALYSIS

C = Unsafe Condition
A = Unsafe Act
L = Loss Prevention
Q = Quality Variation

II. ASBESTOS AWARENESS

Asbestos has been widely used as insulation, structural wall board, roofing material, etc. The transite that is to be removed is an asbestos containing material that was installed 45 years ago when the plant was built. Due to the need to comply with or exceed government regulations as needed to protect the health of personnel. This procedure reflects this commitment.

III. MINIMUM SAFETY EQUIPMENT REQUIREMENTS

A. Hard hat.

B. Side shield safety glasses or monogoggles.

C. Approved full face mask with proper canister must be worn during material removal and clean up operations.

C: To prevent inhalation of asbestos fibers.

D. Disposable paper coveralls must be worn during material removal and cleanup operations.

C: To prevent contamination of clothing.

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1. Paper coveralls and gloves must be removed on job site prior to leaving area at anytime (breaks, lunch, restroom, end of shift, etc.)

2. Paper coveralls will be disposed of daily by placing them inside specially marked plastic bags, sealing the plastic bag and disposing plastic bag into designated asbestos collection dempster.

C: Placing paper coveralls in the specially marked plastic bags and disposing of bags prevents contamination to other personnel.

*****NOTE*****

UNDER NO CIRCUMSTANCES CAN ANY OF THIS CONTAMINATED CLOTHING BE TAKEN HOME.

E. Rubber Safety Boots.

1. These must be washed before leaving the isolated area at anytime.

C: Prevents spreading asbestos material out of isolated area.

F. Safety Belt.

G. Cotton Gloves.

1. Gloves are to be disposed of along with paper coveralls.

C: To prevent reuse of contaminated gloves.

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IV. TOOLS AND EQUIPMENT

Motorized scissor lift, portable garden sprayer, pry bar, fiber frax, 4 centerwell covers, roll(s) polyethylene plastic, yellow tape, 3 green tags, specially marked plastic bags, and asbestos disposal dempster.

V. DAILY PRE-JOB LINEUP

A. Obtain safe work permit from Shift Foreman daily.

C: Helps assure area safe to work in and informs shift foreman of extra personnel in area and work to be performed.

B. Move scissor lift into proper position where work is to be performed.

1. Handrails must be in down position to travel through doorways.

C: Handrails not in down position will allow scissor lift to be too tall to pass through doorways.

2. If scissor lift is not battery operated a kubota will be needed to pull scissor lift to work area.

3. Set outriggers.

. Cover operating floor from in at of cells to wall with polyeth ne plastic under the area to be worked, to contain any falling transite.

C: Covering floor helps contain asbestos material.

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D. Yellow tape area to be worked, four cells at a time and place caution signs at the boundaries of the isolated work area.

C: Installing yellow tape and caution signs warn personnel of asbestos removal work and possible presence of asbestos dust.

1. Yellow tape should be attached from front of end cells in work area out to wall.

2. Attach properly filled out green tags to both yellow tapes.

C: Warns personnel of hazards in area and precautions.

E. Assure that fiber frax has been installed over all three wells with metal well lids and centerwell cover in place over fiber frax on the cells to be worked over.

C: This prevents any foreign material from entering wells which could cause a pop, splash, or blow.

1. Operations will perform this part of procedure.

C: Operations have the proper safety equipment and know procedure for this step.

F. Shut off and red tag switch gear on overhead vent fan above the cell where work is being performed.

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C: This prevents asbestos dust from being vented out of building.

1. Follow Electrical Operations Procedure #7.

A: Not following Procedure #7 could result in hazardous situation.

2. Normally only one vent fan at a time will be tagged out.

L: Shutting off 2 fans in a row may overheat the buss causing damage to copper buss plates and possible loss of electrical load on cells.

3. When work is finished under vent fan, remove red tag and turn on vent fan using proper electrical procedure.

G. Put on paper coveralls, gloves and check full face mask and canister.

C: Checking full face mask and canister assures it is in proper working condition.

1. Full face mask is to be worn at all times while work is being performed.

C: This prevents inhalation of asbestos dust.

H. Fill out asbestos safety check list every day prior to start up of job.

C: This assures all pre-job steps and precautions have been performed.

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VI. OTHER PERSONNEL

A. Keep all personnel not directly involved in the transite removal work out of the work area, unless there is an operational need for them to be in area.
(Example: Pump Crew).

C: This helps to prevent tracking asbestos material out of containment area.

1. Personnel required to work in the isolated area must first be advised of the potential health hazards and must observe the minimum safety requirements for asbestos related work.

B. Removal operations need to be halted and polyethylene plastic needs to be folded back if there is a need for operating personnel to cross the taped area.

C: This helps to prevent asbestos material from leaving the containment area.

C. Have personnel to travel through the gashouse instead of crossing through isolated work area.

D. Personnel working outside isolated area and crossing outside isolated area do not need to wear special safety gear.

II. REMOVAL STEPS

A. Anytime the scissor lift is parked in front of a cell, the feed to cell is to be off and communicate this with building operator.

C: This helps prevent cell from boiling over under scissor lift and trapping personnel on lift.

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*****NOTE*****

RESPIRATOR IN USE AND MONOGOGGLES
ON ARE REQUIRED ANY TIME PERSONNEL
ARE BEHIND CURTAIN. FULL FACE MASK
CAN BE USED.

1. Turn the automatic feeder
valve to the "off" position and
attach properly filled out green tag to
valve handle.

2. Pull feeder pipe and place
on cell cover away from feeder pipe
hole in cover.

C: This prevents feed from
entering cell should air to
feeder valve fail causing
valve to open.

Q: Placing feeder pipe on
cell cover also prevents
feed from being spilled
onto floor.

3. Feed is not to be off a
cell more than 45 minutes at a
time.

A: Feed left off cell
longer can cause cell to
overheat, cell to metal
short, or cell to get wild
when feed is turned back
on.

4. Cover feed pipe hole in
cell cover with fiber frax.

C: Prevents gas emissions
and keeps foreign material
from getting into cell.

B. With handrails up on scissor
lift, raise lift into position.

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A: Handrails not up could allow personnel to fall.

1. Caution is to be used to avoid electrical lines that run along the ceiling.

C: To prevent possible electrical shock.

C. As necessary, use portable garden sprayer to wet down the asbestos material before, during, and after removal.

C: Prevents airborne asbestos dust or fibers.

1. Avoid overwetting to the point that the material crumbles and turns into mush.

C: Overwetting causes material to become difficult to handle.

2. Avoid putting water onto cell.

A: Allowing water to get into cell would have a violent reaction.

*****CAUTION*****

USE EXTREME CAUTION WHEN WORKING AROUND WET ASBESTOS AS IT IS VERY SLICK (ESPECIALLY AROUND POLYETHYLENE PLASTIC.)

C. Break the asbestos material from ceiling using pry bar if necessary.

1. Do not drill or saw transite asbestos.

C: Keeps airborne emissions to a minimum.

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D. As transite material is removed, it is to be placed directly into specially marked plastic bags.

C: This prevents scattering of asbestos dust throughout the work area.

1. Do not drop material to operating floor level.

2. Lower plastic bags from working area to operating floor using poly rope.

3. Lower plastic bags from operating floor through the window, using poly rope, to the designated collection dumpster located between the buildings.

4. Assure poly rope is dry.

C: This prevents shock hazard when lowering to ground level.

E. As needed, move scissor lift to new position and reposition polyethylene plastic on floor of work area.

F. After scissor lift is moved from in front of a cell, turn feed back on cell.

1. Remove fiber frax from over hole in cell cover, replace feeder pipe into cell cover and seal with fiber frax gasket.

C: Gasket prevents emission of cell gas.

2. Remove green tag from automatic feeder valve handle.

3. Turn automatic feeder valve handle to "auto" position unless there is a suction pipe cleaner tag/cap attached or otherwise instructed by building operator or shift foreman.

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C: Turning valve to "auto" position allows cell to be fed by the computer.

A: Turning valve to "auto" or "on" position with suction pipe cleaner tag/cap could cause gas inhalation to other personnel.

G. Any timber removed is to be disposed of in wood dempster.

H. Steps for removal of asbestos material from ceiling behind curtain are forth coming and will be added to this procedure.

VIII. POST JOB STEPS

A. At the end of each work day a thorough inspection of the work area must be made to assure all asbestos material has been removed.

B. Rollup the polyethylene sheet so that the asbestos contaminated side is folded in on itself.

C: Folding in prevents material from escaping containment sheet.

1. Put folded polyethylene sheet into specially marked plastic bag and lower into designated collection dempster using poly rope.

C: Protects other personnel from contaminated material.

C. Move scissor lift out to wall between windows and wash down using wash down hose.

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C: This decontaminates
scissor lift.

C: Having lift between
windows prevents material
from being washed out
window onto personnel.

1. Do not wash lift in
direction of cells.

A: Washing lift in
direction of cells could
allow water into cells
resulting in blow.

D. Move scissor lift to
storage area in A-615 using kubota
if necessary.

E. Place contaminated paper
coveralls, gloves, and yellow tape
with green tags into specially marked
plastic bags and dispose of into
designated collection dempster.

F. Remove signs and store
in A-615.

G. Contact shift foreman
to have fiber frax removed from
wells, metal well lids replaced,
and center well covers stored in
A-615.

C: Operations have the
proper safety equipment and
know procedure for this
step.

H. Environmental Services
must be called to pick up dempster.

I. Each member of work crew
must take a shower at the end of
each work day.

C: To remove any material
that may get on body.

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WRITTEN: 1/86

J. Adame
P. Wolber
K. Smith

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DAILY SAFETY CHECK LIST FOR ASBESTOS REMOVAL

Date: _____
 Person performing safety check: _____
 Building: _____ Cell Group: _____
 Personnel performing job: _____

1. SAFETY EQUIPMENT:

Hard Hat	_____
Side Shield Safety Glasses	_____
Monogoggles	_____
Full Face Mask with Canisters & Filters	_____
Disposable Coveralls	_____
Gloves	_____
Rubber Safety Boots	_____
Safety Belt	_____
Other: See Safe Work Permit	_____

2. TOOLS AND EQUIPMENT:

	YES	NO
A. Scissor lift(s) operational	_____	_____
B. Portable garden sprayer to wet asbestos	_____	_____
C. Pry bar(s)	_____	_____
D. All wells in work area covered with fiber frax, metal well lids and center well covers	_____	_____
E. Polyethylene plastic covering floor of work area	_____	_____
F. Yellow tape, with green tags attached, installed	_____	_____

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DAILY SAFETY CHECK LIST FOR ASBESTOS REMOVAL -- PAGE 2

	YES	NO
G. Warning signs in place	_____	_____
H. Plastic asbestos disposable bags available	_____	_____
I. Asbestos disposal dempster in place	_____	_____
J. Overhead vent fan shutdown and red tagged	_____	_____
3. All personnel performing job have reviewed procedure.	_____	_____
4. Have all involved personnel been informed?	_____	_____
5. Feed turned off cell, green tag attached, and feeder pipe pulled when lift in front of cell.	_____	_____
6. Safe work permit issued.	_____	_____
Foreman issuing permit: _____		
7. FINAL CLEANUP:		
A. Polyethylene plastic, yellow tape, and green tags bagged and placed into asbestos disposal dempster.	_____	_____
B. Scissor lift(s) cleaned and washed prior to leaving area.	_____	_____
C. All traces of asbestos cleaned up.	_____	_____
D. All rubber boots, full face masks, hard hats, and safety belts washed prior to leaving area.	_____	_____
E. Gloves and disposable coveralls bagged and placed into asbestos disposal dempster.	_____	_____
F. Red tag pulled on overhead vent fan, and fan on.	_____	_____
G. Feed pipes replaced, sealed, green tag removed, and feed on cell.	_____	_____
H. All tools and equipment stored in proper areas.	_____	_____

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DAILY SAFETY CHECK LIST FOR ASBESTOS REMOVAL -- PAGE 3

	<u>YES</u>	<u>NO</u>
I. Battery charger hooked up to battery operated scissor lift.	<u> </u>	<u> </u>
J. Safe work permit completed and returned to foreman.	<u> </u>	<u> </u>

1/21/86

P. Wolber

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REMOVING TRANSITE ASBESTOS CONTAINING MATERIAL
FROM CELL BUILDING CEILINGS

I. PURPOSE

Through the proper use of safe work procedures minimize and control the exposure of personnel to asbestos dust while removing the transite asbestos containing materials at Mag I.

SAFETY & QUALITY ANALYSIS

C = Unsafe Condition
A = Unsafe Act
L = Loss Prevention
Q = Quality Variation

II. ASBESTOS AWARENESS

Asbestos has been widely used as insulation, structural wall board, roofing material, etc. The transite that is to be removed is an asbestos containing material that was installed 45 years ago when the plant was built. Dow is committed to complying with or exceeding government regulations as needed to protect the health of personnel. This procedure reflects this commitment.

III. MINIMUM SAFETY EQUIPMENT REQUIREMENTS

A. Hard hat.

B. Side shield safety glasses or monogoggles.

C. Approved full face mask with proper canister must be worn during material removal and clean up operations.

C: To prevent inhalation of asbestos fibers.

D. Disposable paper coveralls must be worn during material removal and cleanup operations.

C: To prevent contamination of clothing.

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1. Paper coveralls and gloves must be removed on job site prior to leaving area at anytime (breaks, lunch, restroom, end of shift, etc.)

2. Paper coveralls will be disposed of daily by placing them inside specially marked plastic bags, sealing the plastic bag and disposing plastic bag into designated asbestos collection dempster.

C: Placing paper coveralls in the specially marked plastic bags and disposing of bags prevents contamination to other personnel.

*****NOTE*****

UNDER NO CIRCUMSTANCES CAN ANY OF THIS CONTAMINATED CLOTHING BE TAKEN HOME.

E. Rubber Safety Boots.

1. These must be washed before leaving the isolated area at anytime.

C: Prevents spreading asbestos material out of isolated area.

F. Safety Belt.

G. Cotton Gloves.

1. Gloves are to be disposed of along with paper coveralls.

C: To prevent reuse of contaminated gloves.

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IV. TOOLS AND EQUIPMENT

Motorized scissor lift, portable garden sprayer, pry bar, fiber frax, 4 centerwell covers, roll(s) polyethylene plastic, yellow tape, 3 green tags, specially marked plastic bags, and asbestos disposal dempster.

V. DAILY PRE-JOB LINEUP

A. Obtain safe work permit from Shift Foreman daily.

C: Helps assure area safe to work in and informs shift foreman of extra personnel in area and work to be performed.

B. Move scissor lift into proper position where work is to be performed.

1. Handrails must be in down position to travel through doorways.

C: Handrails not in down position will allow scissor lift to be too tall to pass through doorways.

2. If scissor lift is not battery operated a kubota will be needed to pull scissor lift to work area.

3. Set outriggers.

C. Cover operating floor from in front of cells to wall with polyethylene plastic under the area to be worked, to contain any falling transite.

C: Covering floor helps contain asbestos material.

ST0461172

D. Yellow tape area to be worked, four cells at a time and place caution signs at the boundaries of the isolated work area.

C: Installing yellow tape and caution signs warn personnel of asbestos removal work and possible presence of asbestos dust.

1. Yellow tape should be attached from front of end cells in work area out to wall.

2. Attach properly filled out green tags to both yellow tapes.

C: Warns personnel of hazards in area and precautions.

E. Assure that fiber frax has been installed over all three wells with metal well lids and centerwell cover in place over fiber frax on the cells to be worked over.

C: This prevents any foreign material from entering wells which could cause a pop, splash, or blow.

1. Operations will perform this part of procedure.

C: Operations have the proper safety equipment and know procedure for this step.

F. Shut off and red tag switch gear on overhead vent fan above the cell where work is being performed.

ST0461173

C: This prevents asbestos dust from being vented out of building.

1. Follow Electrical Operations Procedure #7.

A: Not following Procedure #7 could result in hazardous situation.

2. Normally only one vent fan at a time will be tagged out.

L: Shutting off 2 fans in a row may overheat the buss causing damage to copper buss plates and possible loss of electrical load on cells.

3. When work is finished under vent fan, remove red tag and turn on vent fan using proper electrical procedure.

G. Put on paper coveralls, gloves and check full face mask and canister.

C: Checking full face mask and canister assures it is in proper working condition.

1. Full face mask is to be worn at all times while work is being performed.

C: This prevents inhalation of asbestos dust.

H. Fill out asbestos safety check list every day prior to start up of job.

C: This assures all pre-job steps and precautions have been performed.

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VI. OTHER PERSONNEL

A. Keep all personnel not directly involved in the transite removal work out of the work area, unless there is an operational need for them to be in area.
(Example: Pump Crew).

C: This helps to prevent tracking asbestos material out of containment area.

1. Personnel required to work in the isolated area must first be advised of the potential health hazards and must observe the minimum safety requirements for asbestos related work.

B. Removal operations need to be halted and polyethylene plastic needs to be folded back if there is a need for operating personnel to cross the taped area.

C: This helps to prevent asbestos material from leaving the containment area.

C. Have personnel to travel through the gashouse instead of crossing through isolated work area.

D. Personnel working outside isolated area and crossing outside isolated area do not need to wear special safety gear.

VIII. REMOVAL STEPS

A. Anytime the scissor lift is parked in front of a cell, the feed to cell is to be off and communicate this with building operator.

C: This helps prevent cell from boiling over under scissor lift and trapping personnel on lift.

ST0461175

*****NOTE*****

RESPIRATOR IN USE AND MONOGOGGLES
ON ARE REQUIRED ANY TIME PERSONNEL
ARE BEHIND CURTAIN. FULL FACE MASK
CAN BE USED.

1. Turn the automatic feeder
valve to the "off" position and
attach properly filled out green tag to
valve handle.

2. Pull feeder pipe and place
on cell cover away from feeder pipe
hole in cover.

C: This prevents feed from
entering cell should air to
feeder valve fail causing
valve to open.

Q: Placing feeder pipe on
cell cover also prevents
feed from being spilled
onto floor.

3. Feed is not to be off a
cell more than 45 minutes at a
time.

A: Feed left off cell
longer can cause cell to
overheat, cell to metal
short, or cell to get wild
when feed is turned back
on.

4. Cover feed pipe hole in
cell cover with fiber frax.

C: Prevents gas emissions
and keeps foreign material
from getting into cell.

B. With handrails up on scissor
lift, raise lift into position.

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A: Handrails not up could allow personnel to fall.

1. Caution is to be used to avoid electrical lines that run along the ceiling.

C: To prevent possible electrical shock.

C. As necessary, use portable garden sprayer to wet down the asbestos material before, during, and after removal.

C: Prevents airborne asbestos dust or fibers.

1. Avoid overwetting to the point that the material crumbles and turns into mush.

C: Overwetting causes material to become difficult to handle.

2. Avoid putting water onto cell.

A: Allowing water to get into cell would have a violent reaction.

*****CAUTION*****

USE EXTREME CAUTION WHEN WORKING AROUND WET ASBESTOS AS IT IS VERY SLICK (ESPECIALLY AROUND POLYETHYLENE PLASTIC.)

C. Break the asbestos material from ceiling using pry bar if necessary.

1. Do not drill or saw transite asbestos.

C: Keeps airborne emissions to a minimum.

ST0461177

D. As transite material is removed, it is to be placed directly into specially marked plastic bags.

C: This prevents scattering of asbestos dust throughout the work area.

1. Do not drop material to operating floor level.

2. Lower plastic bags from working area to operating floor using poly rope.

3. Lower plastic bags from operating floor through the window, using poly rope, to the designated collection dumpster located between the buildings.

4. Assure poly rope is dry.

C: This prevents shock hazard when lowering to ground level.

E. As needed, move scissor lift to new position and reposition polyethylene plastic on floor of work area.

F. After scissor lift is moved from in front of a cell, turn feed back on cell.

1. Remove fiber frax from over hole in cell cover, replace feeder pipe into cell cover and seal with fiber frax gasket.

C: Gasket prevents emission of cell gas.

2. Remove green tag from automatic feeder valve handle.

3. Turn automatic feeder valve handle to "auto" position unless there is a suction pipe cleaner tag/cap attached or otherwise instructed by building operator or shift foreman.

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C: Turning valve to "auto" position allows cell to be fed by the computer.

A: Turning valve to "auto" or "on" position with suction pipe cleaner tag/cap could cause gas inhalation to other personnel.

G. Any timber removed is to be disposed of in wood dempster.

H. Steps for removal of asbestos material from ceiling behind curtain are forth coming and will be added to this procedure.

VIII. POST JOB STEPS

A. At the end of each work day a thorough inspection of the work area must be made to assure all asbestos material has been removed.

B. Rollup the polyethylene sheet so that the asbestos contaminated side is folded in on itself.

C: Folding in prevents material from escaping containment sheet.

1. Put folded polyethylene sheet into specially marked plastic bag and lower into designated collection dempster using poly rope.

C: Protects other personnel from contaminated material.

C. Move scissor lift out to wall between windows and wash down using wash down hose.

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C: This decontaminates scissor lift.

C: Having lift between windows prevents material from being washed out window onto personnel.

1. Do not wash lift in direction of cells.

A: Washing lift in direction of cells could allow water into cells resulting in blow.

D. Move scissor lift to storage area in A-615 using kubota if necessary.

E. Place contaminated paper coveralls, gloves, and yellow tape with green tags into specially marked plastic bags and dispose of into designated collection dempster.

F. Remove signs and store in A-615.

G. Contact shift foreman to have fiber frax removed from wells, metal well lids replaced, and center well covers stored in A-615.

C: Operations have the proper safety equipment and know procedure for this step.

H. Environmental Services must be called to pick up dempster.

I. Each member of work crew must take a shower at the end of each work day.

C: To remove any material that may get on body.

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WRITTEN: 1/86

J. Adame
P. Wolber
K. Smith

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