M2427 - 1/82 - 2M

DOW CHEMICAL CANADA INC.

GENERAL SERVICE TANK CARS

DATE: ____________________

AUDITED BY: ____________________

BOTTOM AREA — DOME AREA — SAFETY APPLIANCES — STENCILLING

HEAT COILS

SAFETY'S

1. OUTLET VALVE CLOSED
2. OUTLET PLUG CHAINED & WRENCH TIGHT
3. OUTLET VALVE SEALED
4. INTERNAL COILS CAPPED
5. EXT. COILS UNCAPPED STENC
6. 8 x 4 ADAPTER TIGHT
7. ALL VALVES CLOSED
8. ALL PLUGS WRENCH TIGHT
9. GASKETS IN PLACE
10. RUPTURE DISC
11. SAFETY VENT
12. STENC. NON-FLAM.
13. MANWAY COVER SECURED
14. INTERNAL VALVE PACK TIGHT
15. INTERNAL VALVE CLOSED
16. ALL POINTS SEALED
17. COMMODITY CARD APPLIED
18. DOME AREA GRATING
19. DOME AREA HAND RAILS
20. LADDER BRACKETS
21. RUNNING BOARDS
22. SAFETY RAILING
23. PLACARDS APPLIED
24. EMERGENCY #
25. COMMODITY
26. ARR STENC. REQ.
27. LEGIBLE
28. GEN. APPEARANCE (SPILL, ETC.)
29. LOADED TANK CAR
30. EMPTY TANK CAR

CAR NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	PRODUCT	REMARKS

DATE: ____________

AUDITED BY: ____________

PRESSURE TANK CAR	DOME AREA														SAFETY APPLIANCES							STENCILLING					PRODUCT	REMARKS
	Housing Cover Handle	Housing Cover Hinge	Housing Studs and Nuts	Housing Porthole Covers	Housing Cover Seal Pin	All Valves Closed Wrench Tight	All Plugs Chained Wrench Tight	Thermowell Covers Chained & Tight	Gage Covers Chained & Tight	Safety Seal Intact	A/HCl Tell Tale Checked & Closed	Housing Cover Sealed	Dome Area Grating	Hand Rails	Ladder Rungs/Brackets	Commodity Card Applied	Safety Railings	Running Boards	Placards Applied	Emergency Number	Commodity	AAR Stencilling Requirements	Legible	General Appearance	Loaded Tank Car	Empty Tank Car		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		

M021^ 2/82 - 2M

DOW CHEMICAL CANADA INC.

LOADED TANK CAR AUDIT

C.T.C. INFRACTIONS

PRESSURE TANK CARS	WK.	MTD	YTD
1. HOUSING COVER HANDLE			
2. HOUSING COVER HINGE			
3. HOUSING STUDS & NUTS			
4. HOUSING PORTHOLE COVERS			
5. HOUSING COVER SEAL PIN			
6. ALL VALVES CLOSED WRENCH TIGHT			
7. ALL PLUGS CHAINED WRENCH TIGHT			
8. THERMOWELL COVERS CHAINED & TIGHT			
9. GAGE COVERS CHAINED & TIGHT			
10. SAFETY SEAL INTACT			
11. A/Hcl TELL TALE CHECKED & CLOSED			
13. DOME AREA GRATING			
14. HAND RAILS			
LADDER RUNGS/BRACKETS			
17. SAFETY RAILINGS			
18. RUNNING BOARDS			
19. PLACARDS APPLIED			
21. COMMODITY			
22. AAR STENCILLING REQUIREMENTS			
23. LEGIBLE			
TOTAL			

GENERAL PURPOSE	WK.	MTD	YTD
1. OUTLET VALVE CLOSED			
2. OUTLET PLUG CHAINED & WRENCH TIGHT			
4. INTERNAL COILS CAPPED			
5. EXTERNAL COILS UNCAPPED STENC.			
6. 8 X 4 ADAPTER TIGHT			
7. ALL VALVES CLOSED			
8. ALL PLUGS WRENCH TIGHT			
9. GASKETS IN PLACE			
10. RUPTURE DISC			
11. SAFETY VENT			
12. STENC. NON-FLAM.			
13. MANWAY COVERS SECURED			
14. INTERNAL VALVE PACK TIGHT			
15. INTERNAL VALVE CLOSED			
18. DOME AREA GRATING			
19. DOME AREA HAND RAILS			
20. LADDER RUNGS/BRACKETS			
21. RUNNING BOARDS			
22. SAFETY RAILING			
23. PLACARDS APPLIED			
26. AAR STENCILLING REQUIREMENTS			
27. LEGIBLE			
TOTAL			

DOW REQUIREMENTS NOT MET

12. HOUSING COVER SEALED			
16. COMMODITY CARD APPLIED			
20. EMERGENCY NUMBER			
24. GENERAL APPEARANCE			
TOTAL			

3. OUTLET VALVE SEALED			
16. ALL POINTS SEALED			
17. COMMODITY CARD APPLIED			
24. EMERGENCY #			
28. GENERAL APPEARANCE (SPILL, ETC.)			
TOTAL			

TOTAL TANK CARS AUTIDED _____

TOTAL TANK CARS SHIPPED FROM DIVISION _____

Dow Chemical of Canada, Limited

MATERIAL TRANSFER

Transfer Requested By _____ Date _____

Material _____ Quantity _____

From				To	
	Plant		Vessel		Plant

Overfill Check

Receiving Tank:	Present Level		Quantity	
	Add Transfer			
	Final Level		Quantity	
	Capacity Level		Quantity	

Approvals

Material and Quality - sgd. _____

	Before	After
Piping & Valving - originating Operator - sgd.		
- other Operators - sgd.		
- receiving Operators - sgd.		
"Before" Check - (see page 2) - sgd.		
"After" Check - (see page 2) - sgd.		

TRANSFER INFORMATION

From			To	
Start	Finish		Start	Finish
		Time		
		Pressure		
		Temperature		
		S.G. or Density		
		Level		
FOR CLERICAL USE ONLY				
		Table Weight		
		Product Weight		
		Transfer Weight		

SAMPLES TO LAB

No	From	

ADDITIVES

Item	Amount	

Seal Numbers	

Scale Gross _____ Scale Tare _____

Marked Tare _____ Net _____

Remarks - (Include any special Instructions on Order)

M-403

Transfer Made By

Revised Febaruay, 1986

PH-GL-417: SELECTION, LOADING AND UNLOADING OF TANK TRUCKS

1. PURPOSE

1.1 The purpose of this guideline is to provide information required to ensure the safe loading, unloading and transportation of Sarnia Division products by Tank Truck. Since these operations present special safety problems to employees, the general public, transportation personnel and our customers, it is policy of Dow Chemical Canada Inc. to do all that is necessary and reasonable to make them safe.

2. SCOPE

2.1 This guideline is intended to cover that portion of our operations involving the selection, loading, unloading and shipping of products by tank truck at the Sarnia Division.

3. LEGAL REQUIREMENTS

The Transportation of Dangerous Goods Regulations - 1985.

4. RESPONSIBILITIES

4.1 Division Traffic

4.1.1 To provide common carriers and plant personnel with the current Dow Transportation Equipment Data Sheets.

4.1.2 To provide common carriers with "Tank Truck Inspection Record" forms and instruct them in their use.

4.1.3 To ensure carriers live up to their responsibilities as outlined in this guideline and to act as a focal point for Dow/Carrier relations.

4.1.4 To perform Product Stewardship audits annually (in conjunction with Plant personnel) on carrier equipment and operations.

4.1.5 To communicate the appropriate highway regulatory information to plant supervision concerning their products.

4.2 Shipping Coordination

4.2.1 To order highway equipment from common carriers, as specified by the Dow Transportation Equipment Data Sheets and the minimum tank truck standard appendix "A".

4.2.2 To ensure Plant loading supervision is aware of the delivery equipment required by the order.

4.2.3 To keep Division Traffic informed of carrier service problems relating to the function.

4.2.4 To communicate carrier, tank number and area in which trucks are scheduled to load or unload, to plant security and scale personnel.

4.3 Carriers

4.3.1 To provide the equipment as ordered by Shipping Coordination and as specified in the Dow Transportation Equipment Data Sheets and Dow's minimum standard for tank trucks complete with the requested customer delivery equipment. Equipment must comply with Federal and Provincial Regulatory Requirements.

4.3.2 To provide equipment which complies with 3.3.1 and which has been maintained, cleaned and inspected as required to ensure the integrity of the the tank, valves and safety relief devices.

4.3.3 To provide equipment which can be properly closed and sealed on completion of loading to protect product quality and prevent leakage to the environment.

4.3.4 To provide drivers who have received basic training in the safe handling of chemicals. To ensure that these drivers are aware of their responsibility to obey Dow safety rules and procedures while within the confines of the Sarnia Division and to abide by the rules and procedures of the consignee when delivering the load. Provide drivers with the above information in their native language if driver is not bilingual.

4.3.5 To provide their drivers with the personal protective equipment specified by the Dow Transportation Equipment Data Sheets.

4.3.6 To provide Dow loading personnel with necessary documents prior to loading. (Outage tables, tank truck inspection records, etc.)

4.4 Production Area Supervision

It is responsibility of supervision who have tank truck loading and unloading facilities to: state in writing what the minimum acceptable standard is for their area. This will include the following:

4.4.1 To ensure the safety of carrier personnel within their battery limits by controlling their movement and ensuring they are equipped with the proper personal protective equipment.

4.4.2 To provide and maintain the loading facilities in a safe condition.

4.4.3 To provide loaders with up to date loading procedures. Procedures must be reviewed annually by supervision and loading personnel.

4.4.4 To review safety problems for abnormal conditions or practices that may have developed.

4.4.5 To train employees to perform preloading inspection of tank trucks for suitability as dictated by the Dow Transportation Equipment Data Sheets and to complete the Tank Truck Inspection Record for each truck and return the appropriate copies to Plant Security and carrier personnel. (Plant Security will forward their copy to Division Traffic.) Appendix A.

4.4.6 To be knowledgeable of the regulatory requirements associated with the shipping of products by highway and to train and certify their employees accordingly.

4.4.7 Shall ensure proper procedures are in effect to properly identify inbound materials prior to unloading; heels in trucks prior to loading and quality of product in truck prior to release.

4.4.8 Shall ensure compliance to the minimum truck standard and issue a list of exceptions to standard where required. Appendix "A"

5.5 Employee

4.5.1 To operate according to written operating procedures.

4.5.2 To inform supervision of problems with defective equipment or abnormal conditions.

4.5.3 To wear the protective equipment required for the job.

4.5.4 To perform a walk around or circle inspection and inspect, prior to loading, the equipment provided by the carrier to ensure that it conforms to the Dow Equipment Data Sheet or other special requirements and to complete the Tank Truck Inspection Record form.

4.5.5 To sign bills for carriers delivering product to the Division, indicating product offloaded and times.

4.5.6 To inspect the equipment presented to ensure it carries the customer delivery equipment requested. Mark inspection sheet if equipment not present.

4.5.7 To ensure any heel of material left in the truck is compatible with the product to be loaded.

PH-GL-417: Selection, Loading & Unloading of Tank Trucks (cont'd.)

4.5.8 To take a representative sample from truck on completion of loading.

4.5.9 To ensure that all closure caps are tight and that trucks have been properly sealed, tagged and placarded prior to leaving the loading area.

4.6 Truck Weigh Scales

4.6.1 To weigh inbound, outbound and inplant truck movements as required by Division policy and business - normally between 7:00 a.m. and 11:00 p.m., Monday to Friday.

4.6.2 To issue hard hats, monogoggles and respirators to all drivers as required.

4.6.3 To issue special instructions (e.g. safety) and explicit directions to inbound carrier drivers as requested by Plant Supervision.

4.6.4 To advise plant or area performing the loading in the event of a weight variation of +— 1000 lbs. from the ordered weight.

5. EQUIPMENT AND AREA SPECIFICATIONS

5.1 THE ITEMS LISTED BELOW SHOULD BE CONSIDERED AS MINIMUM REQUIREMENTS FOR A LOADING/UNLOADING FACILITY.

5.1.1 Eye wash fountains and safety showers should be provided where product hazards warrant and at the loading/off-loading level and area wherever possible.

5.1.2 Fixed fire protection systems and portable fire extinguisher should be provided, as required, by the hazards of material handled.

5.1.3 Electric motors and lighting used at the facility should conform to the electrical area classification required for the product handled.

5.1.4 A standard Dow loading station, complete with stairway access should be provided. A means to prevent employees from falling off a tank truck must be provided. (Safety cage, safety belt and lifeline, or other suitable equipment.)

5.1.5 All process loading lines and utility lines will be properly identified. The loading and unloading lines of dangerous goods must have a placard displayed on or near the loading/unloading line.

5.1.6 Suitable hoses, piping and equipment must be provided by the Production Unit, and preferably, at the loading/unloading level. Hoses and piping will be bonded to prevent static buildup, and comply with specifications required by individual product. Hoses will be added to expansion joint schedule for inspection.

5.1.7 When loading or unloading flammable materials above their flash points or combustible dusts, grounding and bonding facilities for protection against static sparks must be provided in addition to the basic features designed to minimize static buildup. (Grounding stations complete with continuity light and alarm horns are strongly recommended.)

NOTE: The volatility of liquid is increased when heated to temperatures equal to or higher than their flashpoints. When so heated, Class II and III liquids shall be subject to the applicable requirements for Class I and II liquids.

5.1.8 Transferring of liquids above their flash point with engine or ignition switch on, or air pressure unloading shall be prohibited UNLESS WAIVED IN WRITING BY THE DEPARTMENT MANAGER. If an operation is such that vapour space is normally in the flammable range, inerting should be installed.

5.1.9 Remotely located emergency shut-offs shall be provided for all flammables handled above their flash point and are recommended for all other materials.

5.1.10 Tank truck stations should contain adequate spill containment facilities.

6. LOADING AND UNLOADING PROCEDURES

6.1 ALL LOADING OR UNLOADING OPERATIONS SHOULD BE COVERED BY WRITTEN OPERATING PROCEDURES. THESE PROCEDURES MUST CONTAIN THE FOLLOWING ITEMS AS A MINIMUM REQUIREMENT AND MUST BE REVIEWED WITH THE INDIVIDUAL(S) AUTHORIZED TO LOAD OR UNLOAD.

6.1.1 Only personnel authorized and certified by the Department whose product is involved, should load or unload trucks.

6.1.2 Material to be transferred or heel present in carrier equipment must be properly identified per department procedures prior to commencing loading or unloading operations.

6.1.3 Prior to commencement of loading, tank specifications must be checked against the Dow Transportation Equipment Data Sheet to ensure conformity. In addition, truck tank and pump hoses should be inspected to ensure they have been properly cleaned and no risk of contamination or reaction is likely, subsequent to loading.

6.1.4 Tractor motors must be shut down, brakes set and wheel chocks installed on the front wheels of the tractor prior to commencement of the loading/unloading operation. Additional precautions to minimize the accidental starting of the tractor engine should be taken. As a minimum, the hanging of a sign stating "Work in Progress" on the tractor steering wheel is recommended. Surrendering of the keys to the loader should be considered as well.

PH-GL-417: Selection, Loading & Unloading of Tank Trucks (cont'd.)

6.1.5 In those instances where it is necessary for the tractor motor to be operated for unloading purposes, the driver should remain outside of the vehicle in full view of the tractor pump and unloading hoses in the event emergency shutdown of the unloaing operation is required.

Drivers must wear the recommended Dow personal protective equipment during these operations.

6.1.6 Before offloading, ensure positive venting by completely opening the hatch or by some other method to prevent possible tank collapse.

6.1.7 Driver should remain at a spot designated by unit procedures and should not be allowed to sleep in cabs of trucks during loading and unloading operations.

6.1.8 Tractors shall be kept under all tank trucks unless a concrete or steel pad is provided under the dollies and a trailer jack and wheel chocks have been installed to provide additional support for the trailer and to prevent movement. No truck will be dropped where it will block escape or fire routes.

6.1.9 Non-sparking equipment and/or tools must be used when loading/unloading flammable materials. (e.g. gauging rods, sample cages, hammers) In addition, flammables must be loaded through a stand pipe which extends to the bottom of the tank being loaded.

6.1.10 When loading or unloading flammable materials, the loading/unloading lines must be bonded to the tank truck and the truck grounded. Make sure a bare metal contact is made before transfer connections are made or loading hatch opened.

6.1.11 The transfer system must be checked for possible leaks before starting transfer. Immediately after starting transfer, the system must be re-checked for leaks and flow to the intended place.

6.1.12 Plugs and caps must be off all outlet valves, during loading, to ensure that material will not leak through the valve and that the valves are, in fact, closed. (This is important for the safety of our customers or other personnel engaged in unloading.) If the tank is equipped with an internal valve, it should also be closed prior to commencing the loading operations. (Note: All bottom unloading trucks must be equipped with an internal valve.)

6.1.13 Overfill calculations must be made before issuing instructions to transfer a specific quantity of material into a truck from a storage tank, or vice-versa. Overfill checks will not be required when loading a tank truck to a specific innage or outage. Loading personnel must be in continuous attendance during the final 15 minutes of the loading operation.

6.1.14 Pertinent information such as level drop, innage or outage numbers, temperatures and seal numbers should be recorded as minimum on the loading sheets to permit future verification of quantity loaded or unloaded.

6.1.15 The attached Tank Truck Inspection form is recommended for use in tank truck loading/unloading operations to ensure proper checks are made and pertinent information has been recorded.

7. TAGGING, SEALING AND PLACARDING

7.1 On the completion of loading or unloading of a tank truck, it is the responsibility of the loader to ensure that the truck is properly closed, sealed, tagged and placarded.

7.2 Sealing

All outlet valves, sample valves, clean out connections, etc., must be plugged and/or capped on the completion of loading or unloading. Strap type seals should be installed on the outlet valves and dome and the seal numbers recorded for future reference.

7.3 Tagging

All outlet valves should be tagged with the following information in a sealed plastic envelope:

(a) Product name
(b) Safe handling and hazard information
(c) E/R Tag (Warehouse Stock #08073000).
(d) Loading date

7.4 Placarding

7.4 Bulk truck equipment loaded with dangerous commodities as defined by the Transportation of Dangerous Goods Code, must be placarded prior to loading the truck.

Placards on inbound loads of dangerous goods must not be reversed or removed until the truck has been purged and/or cleaned and no hazard exists.

8. E/R INFORMATION SHEETS

8.1 Drivers should be issued with the appropriate Emergency Response Information sheet for the product they are carrying prior to leaving the plant loading area.

APPENDIX A

PH-GL-417

QUALITY ASSURANCE - PROPOSAL

TANK TRUCK STANDARD

PURPOSE

To ensure that tank trucks that are used to transport Sarnia Division products meet all Dow and Government standards and regulations. This standard does not involve itself with area loading procedures. It should be used in conjunction with the T.E.D. sheets and PH-GL-417.

RESPONSIBILITIES

Loading area supervision is responsible to ensure that all equipment loading by them meets this standard.

In the case where the area supervision decides that equipment loaded in their area does not have to meet certain requirements, a list of exceptions must be prepared and communicated to the area loaders and Traffic and Distribution.

When a trailer that has been offered to load has been refused or a temporary accommodation made, the loading supervisor must complete a Transportation Product Stewardship Communication (TPSC). For customer pickups, loading supervision must call the sales offices. For common carriers, the shipping coordinator should call the carrier and notify Traffic by use of Inspection Report.

When a customer plans to add or change equipment in their fleet, the salesman must communicate this information to the loading area supervision before approval to use this equipment is given to the customer. Upon receiving approval from the loading area supervision, the person can give his approval to the customer.

Traffic and Distribution is responsible for ensuring that the Tank Truck Standard is up-to-date w.r.t. Dow standards and government regulations. This group must communicate all changes to the loading areas.

PROPOSAL

PH-GL-417

TANK TRUCK STANDARD

M - Must

W - Wants

Plate of Stencil that shows	
MC # or Material of Const.	M
Capacity of each compartment	M
Operating pressure	M
PSV or Disc setting	M
Stainless Steel Tanks	M
Valves	M
Dust Covers, Wash Caps	M
Internal Valves that can be checked	M
External Valves	M
Emergency Shut-off c/w Fusable Links	M
Hatch covers must have good gaskets	M
Clean out nozzle caps	M
Tank equipped with Safety Valves or Rupture Disc. Safety Valves for flammable products	M
Crash protection on rear end with 6" clearance (min)	M
Roll protection	M
All outlets (including air inlet) equipped with dust cover, blank flange, or plugs	M
Trailer appearance good	W
Trailer equipped with 4 Placard holders	M
Tractor equipped with Placard holder	W
Tractor can be shut off during loading	M
Twelve inch road clearance	M

DOW CHEMICAL CANADA INC.

TANK TRUCK INSPECTION RECORD & LOADING CHECK SHEET

MC -

DATE

CARRIER: _____ TRAILER NO _____ TRACTOR NO. _____

COMPLETED BY CARRIER WHEN EQUIPMENT ORDERED

	PUMP	HOSE	COMP 1	COMP. 2	COMP 3
METHOD OF CLEANING					
LAST CONTENTS					
PRODUCT TO BE LOADED					
HAZARD CLASS					

CALIBRATION CHARTS REQUIRED: Y N

COMPLETED BY CARRIER WHEN EQUIPMENT DISPATCHED

CONSIGNEE: _____ DOW NO: _____ DESTINATION _____

DATE & TIME REQUIRED: _____ DATE & TIME REQUIRED TO DELIVER _____

PUMP REQUIRED: Y N TYPE: _____ DRUM NOZZLE Y N _____

HOSE REQUIRED: Y N TYPE: _____ FEET: _____ OTHER EQUIPMENT _____

	COMPARTMENTS		
	COMP. 1	COMP 2	COMP 3
PRODUCT			
QUANTITY			
TANK CAPACITY			
MATERIAL OF CONTRUCTION			

COMPLETED BY LOADERS

CARRIER _____

TRAILER _____

MC NO. _____

IGNITION OFF _____

KEYS REMOVED _____

TRUCK CHOCKED _____

TIRES VISUAL INSP. _____

GROUNDED _____

REMARKS: _____

* * * QUALITY COUNTS * * *

DRIVERS SIGNATURE

_____

		COMP. 1	COMP 2	COMP 3
PRODUCT				
QUANTITY				
ORDER NO.				
CAPACITY OF TRAILER				
LOADED FROM:				
ADDITIVES: TYPE				
QUANTITY				
DOME AREA CLEAN				
DOME GASKET GOOD				
WASH CAPS PRESENT				
HOSE & PUMP CLEAN				
TANK CLEAN & DRY				
SAFETY VALVE/RUPTURE DISC PRESENT				
INTERNAL VALVE HOLDS AND CLOSED				
EXTERNAL VALVE CLOSED				
E/R CARD ATTACHED				
COMMODITY CARD ATTACHED				
DUST COVERS INSTALLED				
SAMPLE AFTER LOADING				
SEALS INSTALLED				
PLACARDS INSTALLED				
STARTED BY: NAME:				
TIME:				
DATE:				
COMPLETED BY: NAME:				
TIME:				
DATE:				

3 4/92 20M

UNIT COPY

Revised February, 1986

PH-GL-418: SELECTION, INSPECTION, LOADING AND SHIPPING OF PACKAGED GOODS ON SEMITRAILER UNITS

1. POLICY

Since the Sarnia Division loads and unloads many semitrailer units each day, it is essential to develop safe procedures for handling the units.

2. SCOPE

This guideline defines the safety equipment and procedures for the safe handling of semitrailers at loading and off-loading spots.

3. LEGAL REQUIREMENTS

The Transportation of Dangerous Goods Regulations - 1985.

4. RESPONSIBILITIES

4.1 Warehouse Department

4.1.1 To order semitrailers suitable for safely transporting Division products.

4.1.2 To provide trained manpower in the form of supervision and fork truck drivers to area supervision on request for the purpose of loading/unloading semitrailers.

4.1.3 To coordinate routine maintenance on fork trucks operated by Warehouse personnel when required at area expense.

4.1.4 To assume the responsibilities listed under 3.2 - Area Supervision (Items 3.2.2 - 3.2.5) when providing loading/unloading service to Area Supervision.

4.2 Area Supervision

4.2.1 To provide and maintain in proper workable condition the following:

(a) Wheel Chocks
(b) Chock rack or holder
(c) Trailer Jacks
(d) Concrete or steel dolly pads
(e) Blocks (substitute for pads)
(f) Loading plates or ramps, with sufficient strength to accommodate fork truck plus load and with locking legs or chains to prevent slipping.

4.2.2 To ensure that trailers "dropped" for loading or unloading, have the dolly wheels placed on concrete or steel pads.

4.2.3 To ensure only properly trained fork truck operators are permitted to load trailers.

RESPONSIBILITIES cont'd.

4.2.4 To ensure fork truck operators and loading crews have been properly trained in the safe operating procedures for loading of semitrailers.

4.2.5 To ensure special precautions are taken to prevent tipping of non-standard trailers ("pups" and/or containers) when the tractor has been removed.

4.2.6 To ensure loading personnel are aware of the hazards (toxicity, flammability, etc.) of the products they are loading/unloading and know the action to be taken in the event of a package failure or puncture.

4.3 Semitrailer Truck Firms

4.3.1 To provide equipment suitable for the safe loading and transportation of Division products.

4.3.2 To provide drivers who are knowledgeable in the safe handling of semitrailers.

4.3.3 To ensure drivers recognize their responsibilities to follow Dow Safe Operating Procedures while within the confines of the Sarnia Division and to remain with their units unless given permission by supervision to do otherwise.

4.3.4 To instruct drivers that it is their responsibility to install wheel chocks once the trailer has been "spotted" for loading/unloading whether the tractor has been uncoupled or not.

4.3.5 To instruct drivers that it is their responsibility to remove the chocks from the trailer wheels, on completion of loading/unloading, and to place the chocks in the rack or holder provided.

In those instances where a trailer has been "dropped" and a trailer jack installed by Dow personnel, driver must not remove the wheel chocks until Dow personnel have removed the trailer jack.

4.4 Employee

4.4.1 To operate according to written loading/unloading procedures.

4.4.2 To inform supervision of problems with defective equipment or abnormal conditions.

4.4.3 To wear the personal protective equipment required for the job.

4.4.4 To inspect, prior to loading, the equipment provided by the carrier to ensure it is suitable for the material to be loaded. (See Appendix "A")

4.4.5 To ensure that trucks have been properly tagged and placarded prior to leaving the loading area.

5. LOADING AND UNLOADING PROCEDURES

5.1 All loading or unloading operations should be covered by written operating procedures. These procedures must contain the following items as a minimum requirement and must be reviewed with the individuals authorized to perform the loading/unloading operation.

5.1.1 Only personnel authorized and where Dangerous Goods are being handled properly certified by the Department whose product is involved should load or unload semi-trailer units.

5.1.2 Tractor motors should be shut down, brakes "set" and wheel chocks installed prior to commencement of the loading/unloading operation. As an additional precaution, the hanging of a sign on the tractor steering wheel stating "Work in Progress" is strongly recommended.

5.1.3 For "dropped trailers", in addition to the installation of wheel chocks, a trailer jack must be placed under the front of the trailer and be in contact with the trailer floor support beam.

5.1.4 Drivers must remain with their equipment unless given permission by Dow supervision to do otherwise. Should this permission be granted, it is the responsibility of the person giving the permission to know where the driver will be and to ensure he obeys company safety rules and personal protective equipment requirements.

5.1.5 A trailer to be loaded/unloaded, without dock facilities, must have a least one rear wheel chocked both front and rear.

5.1.6 Trailer interiors must be thoroughly inspected prior to loading to ensure they are suitable for the load to be carried. (See Appendix "A")

5.1.7 On completion of the loading/unloading operation, the safety jack on dropped trailers and the warning sign on steering wheels should be removed.

5.1.8 Loaded units must be properly tagged and placarded before being permitted to leave the loading area.

6. TAGGING AND PLACARDING

6.1 Tagging

An E/R tag (Warehouse Stock #08073000) should be attached to the trailer door handle assembly.

6.2 Placarding

Semitrailers loaded with more than 500 kgs. of dangerous commodities, as defined by the Transportation of Dangerous Goods Code, must be placarded prior to loading the semi-trailer.

For shipments that contain two or more different classes of dangerous goods, whose total weight exceeds 500 kgs., must be placarded the the "DANGEROUS" placard.

APPENDIX "A"

PH-GL-418

INSPECTION GUIDELINE FOR SEMITRAILER UNITS

FLOORS AND SIDEWALLS

(1) Should be clean, free of debris, oil, grease, or contaminating odors.

(2) Must not have projecting nails, screws, staples, etc. Fasteners should be countersunk.

(3) Must not have torn or sharp projections.

(4) Must not have holes open to the elements.

(5) Holes in trailer lining must be adequately repaired to prevent damage to lading.

DOORS

(1) Must be tight fitting, with all hinges and door closure pieces in good working condition. Interior fastenings must not protrude inside of trailer.

(2) Door linings must be in good condition, having no sharp projections on the inside of door.

ROOF

(1) Must be free of holes or openings that could cause water or foreign material leakage.

CANVAS TOP

(1) Must be free of holes or openings, rips, tears, etc., that could cause water or foreign material leakage.

(2) Normally, to be used for containers that are unaffected by moisture (steel or rubber containers). Should not be used for bags, boxes, fiberpaks, etc., unless special handling requirements are requested.

ANNUALLY, THE TWO MAJOR CANADIAN RAILROADS TRANSPORT APPROXIMATELY 223,000 LOADS OF DANGEROUS GOODS OVER A RAIL NETWORK COMPRISED OF 38,000 MILES OF TRACKAGE. A COMMITMENT FROM EACH EMPLOYEE IS A MUST TO ENSURE THE SAFE TRANSPORT OF THESES GOODS. SUCH A COMMITMENT IS REFLECTED FOR EXAMPLE IN THIS RAILWAY MANAGEMENT GUIDE FOR POLICY AND AUTHORITY ON SAFETY, WHICH READS IN PART:

POLICY

IT IS CORPORATE POLICY TO TAKE ALL REASONABLE MEASURES TO PROTECT PASSENGERS, EMPLOYEES AND THE PUBLIC AT LARGE FROM ACCIDENT OR MISADVENTURE WHILE IN RAILWAY EQUIPMENT OR ON RAILWAY RIGHT-OF-WAY OR OTHER CORPORATE PROPERTY. IN NO CASE WILL SUCH MEASURES BE LESS THAN THE OBLIGATIONS IMPOSED UPON THE CORPORATION BY LAW.

TO THIS END IT IS CORPORATE POLICY TO ENGAGE IN CONTINUING PROGRAM TO PROMOTE ACCIDENT PREVENTION THROUGH THE EDUCATION OF EMPLOYEES IN THE IMPORTANCE OF SAFE WORK HABITS, THE PRESCRIPTION OF WORKING AND OPERATING RULES DESIGNATED TO ENSURE SAFE WORKING AND OPERATING PRACTICES, AND THE ELIMINATION OF HAZARDOUS CONDITIONS.

FURTHER, IT IS CORPORATE POLICY TO COMPLY PROMPTLY WITH THE REGULATIONS AND DIRECTIVES OF GOVERNMENTAL OR SIMILAR BODIES HAVING JURISDICTION OVER THE CORPORATION OR ANY PART THEREOF IN MATTERS OF PUBLIC AND EMPLOYEE SAFETY AND CO-OPERATE WITH ORGANIZATIONS AND ASSOCIATIONS DEVOTED TO SAFETY RESEARCH AND EDUCATION.

THE POLICY IS FURTHER RE-ENFORCED AT THE OPERATING LEVEL AS THE FOLLOWING GENERAL NOTICE APPEARS IN THE UNIFORM CODE OF OPERATING RULES FOR RAILWAY EMPLOYEES:

GENERAL NOTICE

SAFETY IS OF THE FIRST IMPORTANCE IN THE DISCHARGE OF DUTY.

OBEDIENCE TO THE RULES IS ESSENTIAL TO SAFETY.

TO ENTER AND REMAIN IN THE SERVICE IS AN ASSURANCE OF WILLINGNESS TO OBEY THE RULES.

THE SERVICE DEMANDS THE FAITHFUL, INTELLIGENT AND COURTEOUS DISCHARGE OF DUTY.

THE APPLICATION OF RAIL POLICY IS EVIDENT THROUGH VARIOUS RAILWAY INITIATIVES THAT INCLUDE:

TRAINING

THE RAILROADS HAVE DEVELOPED AND IMPLEMENTED EXTENSIVE TRAINING PROGRAMS COMMENCING IN CERTAIN INSTANCES, THE DAY THE EMPLOYEE JOINED THE COMPANY.

AS FOR DANGEROUS GOODS TRAINING, THE TWO MAJOR RAILROADS HAVE TRAINED OVER 37,000 EMPLOYEES AT AN APPROXIMATE COST OF 3 MILLION DOLLARS TO MEET THE INITIAL REQUIREMENTS OF THE DANGEROUS GOODS REGULATIONS.

TRAIN AND YARD CREWS ARE GIVEN INSTRUCTION WITH RESPECT TO THE PROPER TRAIN HANDLING AND SWITCHING REQUIREMENTS RELATIVE TO TRANSPORTATION OF DANGEROUS GOODS BY RAIL.

CARLOAD SERVICE CENTER STAFF ARE TRAINED TO ACCEPT AND PREPARE DOCUMENTATION THAT IS NECESSARY TO ACCOMPANY THE DANGEROUS GOODS SHIPMENTS.

EQUIPMENT PERSONNEL ARE TRAINED TO INSPECT CAR EQUIPMENT AND TO PROVIDE VARIOUS LEVELS OF EMERGENCY RESPONSE.

CAR INSPECTIONS

REGULATIONS WITH RESPECT TO CAR INSPECTIONS ARE DESCRIBED IN THE CANADIAN TRANSPORT COMMISSIONS REGULATIONS. ESSENTIALLY, RAIL CARS FOR DANGEROUS GOODS ARE INSPECTED BEFORE LOADING, AFTER LOADING AND DURING TRANSPORT.

THE INSPECTIONS ARE CARRIED OUT BY CERTIFIED CAR INSPECTORS, TRAIN CREWS, TRACK SIDE HOT JOURNAL AND DRAGGING EQUIPMENT DETECTORS.

THE HOT JOURNAL AND DRAGGING EQUIPMENT DETECTORS ARE STRATEGICALLY PLACED ALONG RAIL LINES. CARS WITH OVERHEATED JOURNALS ARE IDENTIFIED AND THEIR LOCATION COMMUNICATED TO THE RESPECTIVE TRAIN CREW IN ORDER THAT THE CAR MAY BE PHYSICALLY INSPECTED AND IF NECESSARY REMOVED FROM THE TRAIN FOR REPAIRS.

CN AND CP RAIL HAVE A TOTAL OF 606 HOT JOURNAL DETECTORS IN PLACE THROUGHOUT THE RAILWAY NETWORK.

TRACK PROGRAMS

A SAFE OPERATION BEGINS WITH GOOD TRACK. ANNUALLY, CN AND CP SPEND IN EXCESS OF 400 MILLION DOLLARS FOR RAIL, TIES AND BALLAST.

THERE HAVE BEEN MANY CHANGES OVER THE LAST 10 TO 15 YEARS TO BOTH TRACK STRUCTURE AND INSPECTION AND MAINTENANCE PROCEDURES. SIGNIFICANT IMPROVEMENTS IN TRACK PERFORMANCE AND PRODUCTIVITY HAVE RESULTED FROM CHANGES SUCH AS THE INTRODUCTION OF HEAVIER TRACK STRUCTURE, DEVELOPMENT OF TECHNOLOGICALLY ADVANCED MAINTENANCE EQUIPMENT AND UTILIZATION OF COMPUTER ASSISTED MANAGEMENT PROGRAMS.

A NEW GENERATION OF SPECIALIZED VEHICLES SUCH AS THE TRACK GEOMETRY CAR, ULTRASONIC RAIL TEST CARS AND SMALLER TOOLS SUCH AS THE ELECTRONIC AUDIO GAUGE WERE DEVELOPED AND ARE NOW USED EXTENSIVELY FOR TRACK QUALITY INSPECTION.

TO SUPPLEMENT INSPECTIONS, CN HAS DEVELOPED THE SECOND GENERATION TRACK GEOMETRY CAR, "TRACK EVALUATION SYSTEM" OR T.E.ST. FURTHER ADVANCED THAN ITS PREDECESSORS, T.E.ST. MEASURES AND RECORDS ACTUAL TRACK CONDITIONS AS THEY APPEAR UNDER DYNAMIC LOADING, USING THE LATEST AVAILABLE MEASUREMENT INSTRUMENTATION, COMPUTER ANALYSIS AND DATA REPORTING EQUIPMENT.

MAINTENANCE REQUIREMENTS IDENTIFIED BY THESE INSPECTIONS ARE PERFORMED BY WELL EQUIPPED MOBILE PROJECT GANGS.

COMPUTER SYSTEMS

TO ASSIST IN MONITORING THE APPLICATION OF THE DANGEROUS GOODS REGULATIONS AND TO PROVIDE INFORMATION AS TO THE DANGEROUS GOODS BEING TRANSPORTED, THE RAILWAYS HAVE DEVELOPED AND IMPLEMENTED SOPHISTICATED COMPUTER SOFTWARE PACKAGES THAT INCLUDE:

A MONITORING PROGRAM TO ENSURE DANGEROUS GOODS CARS ARE PLACED ON TRAINS IN COMPLIANCE WITH MARSHALLING REGULATIONS.

A DOCUMENT RETRIEVAL PROGRAM THAT PROVIDES THE MEANS TO OBTAIN A COPY OF THE SHIPPING INFORMATION SHOULD THE ORIGINAL SHIPPERS DOCUMENT BECOME LOST EN-ROUTE.

AN EMERGENCY RESPONSE INFORMATION SYSTEM THAT ALLOWS FOR EMERGENCY RESPONSE DATA TO BE ACQUIRED THROUGH THE RAILROADS COMPUTER SYSTEM FOR DANGEROUS GOODS BEING TRANSPORTED ON A TRAIN OR FOR CARS STATIONARY IN A RAIL YARD.

EMERGENCY RESPONSE PERSONNEL AND EQUIPMENT

CN AND CP HAVE RESPONSE PERSONNEL AVAILABLE AT 52 LOCATIONS ACROSS CANADA THAT MAY BE CALLED UPON TO ASSIST IN THE EVENT OF A RAIL EMERGENCY INVOLVING DANGEROUS GOODS.

EMERGENCY RESPONSE EQUIPMENT THAT INCLUDE: 24 AUXILIARIES, 26 HI-RAIL CRANES, 16 WRECK DOZERS AND 24 HYDRAULIC RERAILERS ARE STRATEGICALLY LOCATED THROUGHOUT CANADA TO MAXIMIZE RESPONSE EFFORTS.

IN ADDITION TO EQUIPMENT FOR CLEARING DERAILMENTS, THE TWO RAILWAYS HAVE 29 EMERGENCY RESPONSE UNITS RANGING FROM 45FT TRAILERS DESIGNED AND EQUIPPED WITH COMMUNICATION EQUIPMENT TO SERVE AS MOBILE COMMAND POSTS TO THE SMALLER SELF-PROPELLED EMERGENCY RESPONSE VEHICLES THAT CONTAIN SUPPORT SUPPLIES AND MATERIALS USED BY THE RAILROAD EMERGENCY RESPONSE PERSONNEL AT THE SCENE.

EMERGENCY RESPONSE PROCEDURES

APPENDED, ARE TWO DOCUMENTS THAT DESCRIBE THE EMERGENCY RESPONSE PROCEDURES OF CP AND CN RAIL.