APPENDIX D-1

EMERGENCY RESPONSE INFORMATION PACKAGE

1. PRODUCT INFORMATION

(a) Physical Properties and Health Effects
- Physical properties
  (gas, liquid, corrosive, oxidizer, etc.)
- Hazards for health effects
  (for skin, eyes, lungs, etc.)
- Personal protection
  (faceshield, goggles, gloves, acid suits, SCBA, etc.)
- Evacuation limits
  (tables, diagrams, maps, overlays, etc.)
- First aid and written medical protocol
  (approved by corporate physician and containing procedures for treatment, special antidote, etc.)

(b) Shipping Containers and Regulations:
(Listing, diagrams, capping kits, fitting description, etc.).
Need for TDG training certificate.

(c) Containment of spill and transfer procedures
- Equipment (absorbent, pump, hoses, etc.)
- Procedures with diagrams

(d) Materials of construction
- Recommended materials (long term, short term)
- Materials to avoid

(e) Neutralization/decontamination procedures
- Chemicals
- Suppliers
- Recommended practices (dilution, cleaning, mixing, etc.)
- Clean-up contractors

(f) Waste Disposal
- How to dispose of spilled/contaminated/neutralized product.
- Transportation contractors list.
- Waste disposal sites.

(g) Suggested sources

- Company sources
  - material safety data sheets
  - product bulletins
  - technical manuals
  - chemical 'backgrounders' for media

- General References:
  - Bureau of Explosives, AAR
    "Emergency Handling of Hazardous Materials in Surface Transportation"
  - Canutec
    "Emergency Response Guide for Dangerous Goods", 3rd Edition
  - D. O. T.
    "Hazardous Materials Emergency Response Guidebook
  - Environment Canada, EPS
    "Enviro Technical Information for Problem Spills" (ENVIRO TIPS) (a series of individual handbooks covering most common chemicals)
  - Environment Canada, EPS
    "Manual for Spills of Hazardous Materials"
  - Shipping documents, labels, ER forms, etc. for all company hazardous materials.

2. PHONE LISTS

(a) Agencies:

TEAP RRC's, TEAP members, Canutec, Chemtrec, drum network, other mutual aid associations, poison control centres, etc.)

(b) In-Company numbers:

ER organization numbers, company management, company locations, (plants, warehouses, depots, etc.) information sources (lab), functional resources (medical, environmental, logistics, etc.)

(c) Suppliers of neutralizing chemicals

(d) Carriers - truckers, rail, etc.

(e) Clean-up contractors

(f) Civil Authorities:

- Environmental agencies
- Police and Fire
- EMO
- Coast Guard
- CTC
- Bureau of Explosives
- etc.

(g) Check list of required/recommended calls
Check legal reporting requirements

3. TRAVEL INFORMATION

- Maps, road atlas
- Flight schedules
- Available charter aircraft (prices, contract, insurance coverage, etc.)
- Car rental
- etc.

APPENDIX D-2

EMERGENCY RESPONSE EQUIPMENT

A. Technical Advisor

- Personal protective clothing
- Specialized equipment for sealing or transfer specific to product, if not on TEAP
- list information package
- Record taking equipment:
  - notebook
  - tape recorder
  - camera
- Personal travel kit - personal care, spare clothing, medicines, etc.

B. Response Team

Depending on type of chemicals, containers, area, the following type of equipment may be needed:

1. Personal protection, safety and health
   - first line of defence so assume worst
   - provide some lower level protection as well, easier to wear
   - train, retrain, practice - must fit

2. Personal care and spare clothing

3. Communications, information and recording

4. Analytical - portable, rugged
   e.g. Draeger; pH and other papers; combustible gas/toxic gas/0_2 deficiency analysers; organic vapour analyser

5. Hand tools
   May be available from other sources, e.g. railways, fire departments, but must be sure.

6. Sealing, containment, clean-up

7. Transfer equipment

8. Vehicle

As team replaces TEAP, complete set of equipment may be required.

APPENDIX D-3

EMERGENCY RESPONSE TRAINING

A PARTIAL LIST OF COURSES FOR 1988

1. **Lambton College**
P. 0. Box 969, Sarnia, Ontario
N7T 7K4
(519) 542-7751

(a) "Emergency Response Course" (Hands On) - 4 days
Dates: April, 1988
(Not available during the winter months)
Cost: $700 Cdn.

(b) "Disciplined Approach to E.R."
1 day to be run the day before "Hands On" Course
Cost: $200 Cdn.

2. **Delaware State Fire School**
Rd. 2, Box 166, Dover, Delaware 19901
(302) 736-4773

"Hazardous Materials Emergency Response Course"
The three day course will be offered on the following dates through 1988:
February 23, 24, 25
April 12, 13, 14 *Cost: $450 U.S.*

3. **Texas A&M University System**
Texas Engineering Extension Service
College Station, Texas 77843-8000
(409) 845-3418

"Hazard Material Control"
Five day course

Cost: $700 U.S.

4. **Safety Systems Inc.**
and St. Augustine Technical Centre
P. 0. Box 40276
Jacksonville, Florida 32203 U.S.A.
(904) 963-3100

"Hazardous Materials Leak, Spill and Fire Control School and Expo"
"Tactical Considerations" Four day course.
Part 1 - February 15 - 19
Part 2 - June 20 - 24

"Command Considerations"

Cost: $250 U.S.

5. **Transportation Test Centre**
Association of American Railroads
P. 0. Box 11130
Pueblo, Colorado 81001
(303) 584-0501 Ext. 371

"Hazmat Spill Control Training Course"
February 1 - 5, 1988
February 22 - 26, 1988
March 7 - 11, 1988
June 27 - July 1, 1988
September 12 - 16, 1988 *Cost: $795 U.S.*

"Tank Car Safety Course"
Five day course to run on the following dates through 1988:
February 8 - 12
February 29 - March 4
March 21 - 25
April 11 - 15
April 25 - 29 *Cost: $925 U.S.*

6. **National Spill Control School**
Corpus Christi State University, 6300 Ocean Drive
Corpus Christi, Texas 78412
(512) 991-8692

"Hazardous Materials/Hazardous Wastes Spill Prevention and Control"
Four and a half day course to run on:
March 14 - 18 *Cost: $725 U.S.*

"Oil Spill Prevention and Control"
Four and a half days, course to run on:
March 7 - 11 *Cost: $725 U.S.*

"OSHA/RCRA Hazardous Waste Safety Training"
March 21 - 25 *Cost: $725 U.S.*

7. **Office of Training Services**
J. T. Baker Chemical Co., Phillipsburg, N.J. 08865
(201) 859-2151

"The Hazardous Chemical Spill Response Workshop"
April 11 - 12 - Toronto
April 14 - 15 - Ottawa
May 18 - 19 - Vancouver *Cost: $595 U.S.*

8. **Chemical Manufacturers Association**
2501 M Street, N.W., Washington, D.C. 20037
(202) 887-1255

"Chemtrec Emergency Response Team Workshop"
Dates and cost not available at time of printing.

Note: *It is strongly suggested that Emergency Responders be trained in fire fighting techniques. Courses are presented by Lambton College, Delaware Fire School, Texas A&M, Safety Systems among others, at addresses listed above.*

CANADIAN PACIFIC

EMERGENCY RESPONSE PROCEDURES

EMERGENCY RESPONSE PROCEDURES

Should an accident involving dangerous commodities occur, a carefully planned emergency response procedure immediately goes into effect. The responsibilities of railway employees are outlined in an Emergency Guidelines.

which is distributed across the CP Rail system. The various aspects of the response are described below.

NOTIFICATION

Train crews, in the event of an accident, contact the train dispatcher, who in turn notifies a list of individuals and organizations equipped to deal with incidents involving dangerous commodities. Included in the list are the local railway superintendent, the railway's emergency response team, the local fire and police departments, the Canadian Transport Commission and the Bureau of Explosives (of the Association of American Railroads).

CP Rail

DOCUMENTATION

For every train that moves on the CP Rail system, there is a train consist -prepared, which lists in detail what the train is carrying. A copy of the train consist is kept on each end of the train itself, and is also available from CP Rail's computer at any point across the system. Train consists have been improved and expanded, with special attention given to dangerous commodities. Detailed information includes:

** the full and proper shipping name of the commodity;
** the placard notation (type of placard applied to car);
** the '49' series Standard Transportation Commodity Code (STCC) number;
** the UN identifcation number;
** the location of the cars containing dangerous commodities on the train.

The train consist thus enables the crew to immediately identify the location and contents of all cars on their train.

Every car on a CP Rail train is accompanied by a waybill which is in the possession of a member of the train crew.

For every full carload, trailerload or containerload of dangerous commodities, an emergency response form must be prepared by the shipper and must accompany the load from origin to destination. This form is approved by the Canadian Transport Commission. It contains instructions on immediate action to be taken in the event of an emergency, information on the special hazards of the commodity involved, the shipper's name and emergency telephone number.

Emergency response information is also contained in the manual entitled "Dangerous Goods Guide to Initial Emergency Response Prepared by Transport Canada". Copies of this manual have been distributed to all running trade employees, dispatchers and operating officers.

In addition, emergency response information is available from any computer terminal across the CP Rail system.

CP Rail has installed special telephone for incoming emergency calls only, in all of its dispatching offices. The telephone numbers have been distributed to the appropriate response forces across Canada.

PERSONNEL AND EQUIPMENT

CP Rail has established twelve emergency response teams across Canada at Saint John, Montreal, Toronto, Windsor, Sudbury, Thunder Bay, Winnipeg, Moose Jaw, Calgary, Edmonton, Cranbrook and Vancouver.

Each team is equipped with an Emergency Response Vehicle (ERV), capable of travelling on both highway and rail, designed to detect hazardous emissions from rail cars, and to serve as a command post, first-aid and communications centre at the scene of an incident involving dangerous commodities.

These specially trained emergency response teams, on call twenty-four hours a day, seven days a week, are equipped with protective clothing, self-contained breathing apparatus, detection and monitoring equipment, first-aid and communications equipment.

In addition, CP Rail has five regional dangerous commodities officers, who respond to derailments or other incidents involving dangerous commodities. Each officer has a fully equipped four wheel drive vehicle, and has received intensive training.

Action Taken by The Conductor

First at the scene of any derailment is the crew. The conductor notifies the train dispatcher or regional operations control centre of the incident and arranges for protection of the train in accordance with the Uniform Code of Operating Rules. He determines if dangerous commodities are on the train from the documentation in the caboose. He warns other employees and the public of potential hazards and keeps them away from the incident scene to the best of his capabilities. If safe to do so, he will identify commodities directly involved and their location.

If the engine is not directly involved in the incident and if it is safe to do so, the train will be cut as close as possible to the derailed cars and moved to a safe distance. The documentation (Shipping document, ER forms, waybills and train journal) will remain at the scene with the senior railway official and be readily available to emergency forces.

Action Taken by Train Dispatching Centre

Regional Operations Control Centre

Once the dispatching or control centre has received details of the incident from the crew, these offices are responsible to provide protection from other trains at the scene as required by the Uniform Code of Operating Rules. Fire, police and medical assistance, if required are arranged immediately. Communication lines are kept open with the conductor at the scene. If necessary, auxiliary equipment is dispatched to the scene and railway emergency response teams are alerted to proceed to the incident site. Railway division officers are notified as are civil authorities if required.

Emergency Response Teams

Railway personnel are not trained or specifically equipped to handle chemical spills or fight fires but they do have specialized teams of trained personnel equipped to respond to derailments involving spills and other dangerous situations. Each of the teams is able to confirm and identify chemical hazards and their extent, carry out minor repairs and assist in other aspects of emergency work.

Each is equipped with four wheel drive emergency vehicles containing communications equipment. In some cases, the vehicles have retractable rail wheels for use when highway access to a derailment is non-existent. Emergency gear includes breathing apparatus, chemical suits and hazard detection equipment.

When advised of an incident, the emergency response personnel and equipment proceed directly to the site. Before leaving or by communicating enroute, they determine the dangerous commodities involved in the incident and review the properties and handling techniques specific to each commodity before arriving at the site.

Once on the scene, emergency response personnel will determine the position of each car containing a dangerous commodity involved in the incident and ascertain if any of them are leaking. If there is no evidence of a leak, they will proceed into the incident site with appropriate detection equipment and wearing protective clothing and self-contained breathing apparatus. They will survey the incident site to determine if any hazards exist.

Should a dangerous commodity leak be detected, the emergency response personnel will determine all perimeters associated with the release and withdraw from the site. They will then report their findings to the senior operating officer and recommend appropriate handling procedures and evacuation distances based on emergency response forms and/or manuals recognized by the railroads.

They will continue to monitor the site and, if require, use the emergency response vehicle as the communications command post until all dangerous commodities have been removed and/or the site declared safe.

OUTSIDE ASSISTANCE

At the time of a dangerous commodity transportation incident involving a train derailment, whether or not a product has been released, there is a need for quick and effective response by knowledgeable personnel in order to ensure the least damage to people and property.

When necessary, the shipper or a third party is called upon to provide advice or hands-on assistance. To some extent, this participation has been formalized with organizations such as CHLOREP which is a network of individual company response teams

designated to assist in chlorine emergencies. The Western Canada Fertilizer Association has a similar arrangement involving member companies in an emergency response program. The Propane Gas Association has an agreement with the Canadian government establishing industry response procedures in the event of an accident involving LPG.

CN RAIL EMERGENCY RESPONSE PLAN

When an incident involving a train carrying dangerous commodities occurs, a series of procedures is triggered, co-ordinated and carried out by key railway operations personnel to minimize the hazard.

Each of the designated employees -- from train conductor to operations control officer -- has a specific role to play to prevent further incident, protect employees and the public, safeguard other traffic, and communicate with authorities. All CN Rail employees who might at some time have to deal with an emergency have been thoroughly trained and are familiar with the procedures that must be followed in the event of any such incident. These procedures form part of operating employees' instruction manuals.

Initially, the train conductor assumes responsibility for safety and communications at the accident site until relieved by a senior operations officer. The conductor's first contact, the train dispatcher, or the yard supervisor, relays information to authorities and to the regional operations control officer, who then acts as co-ordinator of all aspects of response to the incident. Meanwhile, a senior operations officer is dispatched to the scene, takes over from the conductor and assumes the responsibility for on-site protection, communications, investigation, and restoration of train service.

In addition to regular operating personnel, CN Rail has established emergency response teams, so that a specially trained group can move immediately to the site of an incident and work under the authority of the senior officer at the scene to provide expertise in handling the commodities involved.

To support procedures at the site, CN Rail uses special emergency response equipment to provide immediate communications and ensure that the work environment is safe.

CN Rail Personnel and their Responsibilities

Whenever an incident involving dangerous goods occurs, the train conductor immediately takes charge and notifies the train dispatcher, or the yard supervisor if the incident took place in a yard. It is the conductor's responsibility to:

- Ensure that other employees and the public are warned to keep clear of the scene.
- Prevent further incident by keeping flames and flammable materials away from the site.
- Determine as quickly as possible which cars are directly involved and which are in close proximity.
- Identify the commodities involved before approaching cars by consulting documentation such as emergency response forms, waybills, bills of lading, emergency response inquiries,

train journals and switch lists, or by checking with the dispatcher or yard supervisor.

- Arrange to have cars not involved in the incident removed to a safe distance from the accident site.
- Give the dispatcher or yard supervisor details on the cars carrying dangerous goods involved in the incident or nearby -- car numbers, contents, emergency response telephone numbers, condition of each car. This applies to empty tank cars as well because of the danger posed by any residue they might contain.
- Make no attempt to have the accident site cleared until the area has been declared safe.
- Co-operate with civil authorities by providing documentation (waybills, emergency response forms) and other factual information to representatives charged with making decisions on matters relating to employee or public safety.

The train dispatcher or yard supervisor, once notified of the incident, performs an advisory and communications function during the period immediately following the event. This officer must:

- Ensure that the conductor has carried out the tasks necessary to protect employees and the public.
- Alert local fire protection and police authorities, as well as medical personnel if necessary.
- Contact the CN Rail Regional Operations Control Centre and

division officers in the transportation, engineering and equipment functions.

- Advise the CTC Railway Transport Committee.
- Order clean-up equipment if required.

Then, following notification by the train dispatcher or yard supervisor, the Regional Operations Control Centre becomes the focal point for co-ordinating response to the incident. The regional operations control officer specifically acts as co-ordinator, to:

- Review the situation with the train dispatcher or yard supervisor and establish the extent of the incident, what measures have already been taken and what remains to be done.
- Notify regional officers on a "need to know" basis, including representatives of the transportation, equipment, engineering and public affairs departments.
- Prepare a report on the incident as well as follow-up progress reports.
- Arrange prompt notification of government agencies such as the Railway Transport Committee, the Emergency Measures Organization, Labour Canada.
- Contact shippers, manufacturers and consignees for technical information and assistance as required.
- Determine what additional equipment is required and co-ordinate its movement to the scene.

- Consider implications for other traffic, including rail passenger operations, and the need for detour arrangements, and notify the appropriate operating regions of CN Rail and other railways if necessary.
- Ensure that all documentation -- forms, reports, instructions, recorded conversations -- is properly preserved as a permanent record.
- Maintain a close liaison with the senior transportation officer who is co-ordinating operations at the scene and provide any needed assistance.

The senior operations officer, dispatched to the scene as quickly as possible, takes on responsibility for overall co-ordination of activities at the site. A red vest, with the words "commander" or "duty officer" displayed, identifies this officer as the on-site authority. As co-ordinator, the officer:

- Ensures that a command post is established as quickly as possible.
- Initiates a log book, to be maintained by command post personnel.
- Verifies that appropriate action has been taken by the train crew with regard to protection of people and materials and ensures that contacts are established with community officials and the media.
- Investigates the situation to establish possible causes of the accident and communicates pertinent information to

regional operating authorities.

- Develops a plan for restoration of normal service as quickly as possible and supplies information on the traffic involved so that customers may be notified.

Emergency Response Personnel

CN Rail's special emergency response teams are made up of officers from the transportation and equipment departments dedicated to the handling of dangerous commodities.

Transportation department officers are primarily responsible for liaison with regulatory authorities, while equipment department officers are directly involved in responding to rail emergencies.

CN Rail has also designated personnel at 40 locations across Canada to respond to emergency situations within their territories. Whenever an incident involving dangerous commodities occurs, these employees proceed directly to the site. Based on information received, they review the situation en route -- the nature of the commodities involved and proper handling techniques.

At the site, they determine the degree of hazard and recommend measures, including evacuation, to contain any danger.

Throughout the danger period, they monitor the site until it has been declared safe.

Emergency Response Equipment

In addition to equipment for clearing derailment sites throughout the system, CN Rail has special emergency response units stationed at various locations to deal with communications and protection needs arising from incidents involving dangerous commodities.

- The Mobile 1 Command Post is a 45-foot trailer fully equipped to provide communications and conference facilities at the site of an incident. Mobile 1 units are currently stationed at Toronto, Winnipeg and Edmonton.
- The Mobile 2 Command Post is a smaller, self-propelled version of Mobile 1. Currently, Mobile 2 vehicles are stationed on busy rail lines, one in Eastern Canada and one in Western Canada.
- The Mobile 3 Emergency Response Vehicle provides support supplies for personnel at the incident site. A four-wheel-drive van, it conveys such equipment as protective clothing, self-contained breathing apparatus, and detection devices to the scene of an incident. Mobile 3 vehicles are stationed at Moncton, Montreal, [redacted], Toronto, Sarnia, Winnipeg, Saskatoon, Edmonton, Prince George, Kamloops and Vancouver.

Communications Program

In May 1983, CN Rail introduced a communications program entitle "Responding to Emergencies", intended for community officials and emergency forces at locations throughout Canada served by the railway. The program explains CN Rail's role and capabilities in dealing with incidents involving dangerous commodities and consists of the following elements:

- A brief overview of CN Rail operations, highlighting dangerous commodities commonly carried.
- A slide presentation describing the roles and responsibilities of CN Rail personnel, the equipment available within CN Rail, and what assistance is expected from local emergency forces and other outside agencies.

In addition, the following printed materials are distributed in sufficient quantities to equip all police and fire officials who may be first on the scene.

- Visor cards, which describe what to do at the site of an incident involving dangerous commodities. The cards also list 24-hour telephone numbers for CN Police.

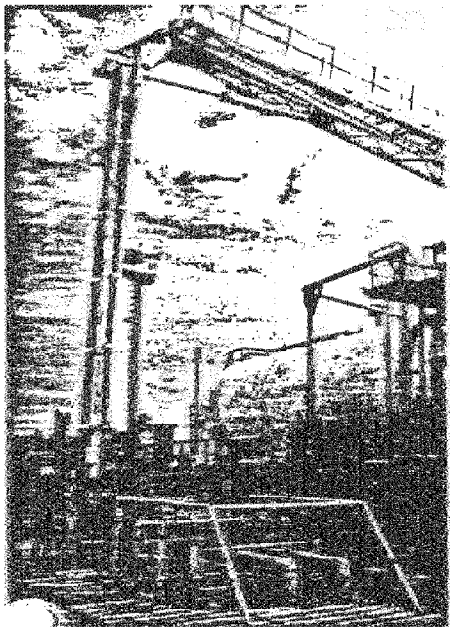
- Clipboard cards which illustrate the various kinds of placards used for dangerous commodites and the hazards

associated with each one.

- Pocket folders which contain the same placard information.

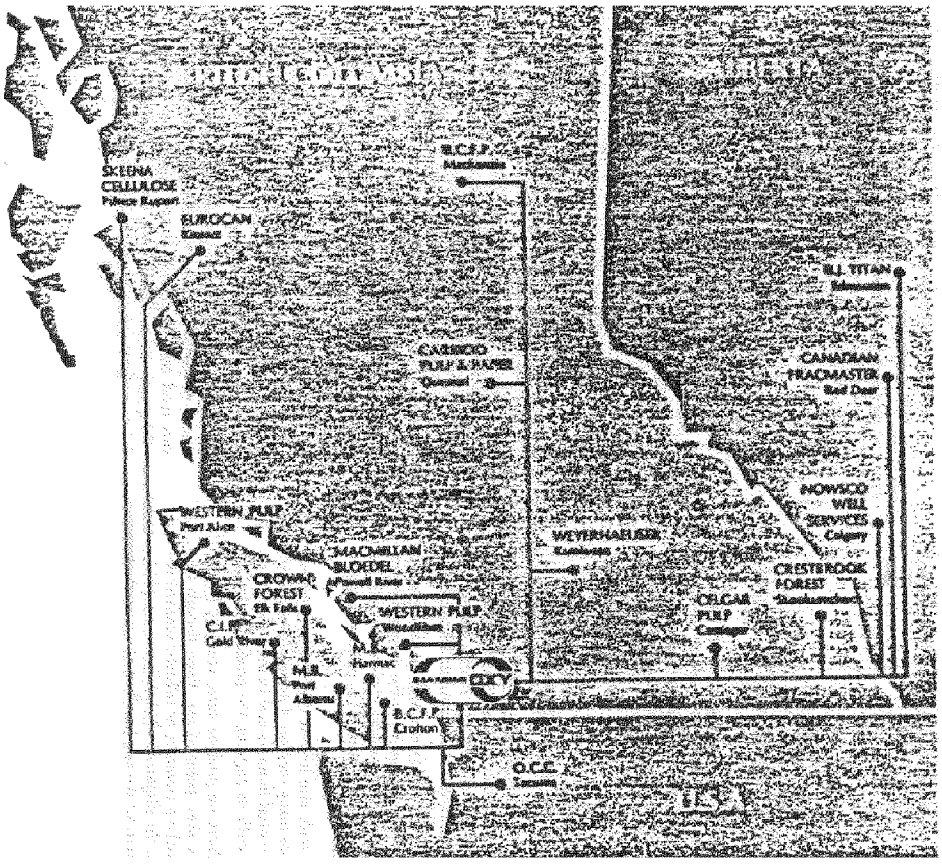
The purpose of the program is to inform emergency response organizations, community officials and the general public about dangerous commodity movements, in order to allay unwarranted fears. It is a major element in our efforts to achieve a safe, efficient freight transportation system.

TRANSPORTATION



Products manufactured by Canadian Oxy are shipped via rail, highway, marine and pipeline. The primary distribution areas for the company's manufactured products are in British Columbia, including Vancouver Island. To transport its products throughout this area the company operates some 350 railway tank cars and two bulk chemical barges. In addition, a large quantity of salt is shipped from the plant by truck for road de-icing during the winter.

All but two of these products (namely brine and road salt) are classified as dangerous goods; therefore, their packaging and transportation are strictly regulated. Canadian Oxy has been very active in the establishment and operation of emergency assistance programs to ensure a fast, efficient response in the event that an accident occurs during the transportation of its products.



As a member of the Canadian Chemical Producer's Association, Canadian Oxy recognizes the public's concern regarding the risks its associates with chemicals and chemical plants and is responding by actively supporting the CAER (Community Awareness and Emergency Response) Program. The overall goals of the program are a better informed public regarding chemicals and a community emergency response plan for handling all emergencies — not just those associated with chemicals.

Canadian Oxy is the regional representative of the Chlorine Institute's Emergency Program (CHLOREP), under which we provide emergency teams and equipment for handling chlorine emergencies.

Canadian Oxy has developed an ongoing program called SALT (Safe and Legal Transportation). This in-house safety program involves three phases: (1) Inspection and audits (which include pre-trip inspections of all tank cars, tank trucks and barges to ensure they are loaded properly), (2) Employee training, and (3) Customer and Carrier communications.

The chemicals we produce are very reactive which makes them hazardous, but extremely useful as chemical building blocks. We who work with these products each day realize the potential danger better than anyone. Our own stringent standards, and government regulations, control each step of our operation. Plant processes are carefully monitored. Equipment and procedures are continuously upgraded as new technology becomes available. And we work regularly with government agencies