

## **Annex M- Hazardous Materials Protection- Administration**

### **Purpose**

#### **Overview**

The Department of Environmental Health and Safety (DEHS) has the responsibility of evaluation, inspection, education, and regulatory action for the University in areas of health, safety and the environment. In the fulfillment of this responsibility there is a necessary component directed to mitigation of emergencies. There are four divisions of DEHS:

- Industrial Hygiene & Safety Division
- Radiation Protection Division
- Public & Occupational Health Division
- Hazardous Waste Division

#### Emergency Incidents of Concern and Response

- Hazardous Chemicals
- Radioactive Materials
- Biological/Infectious Agents
- Fire – arson or accidental
- Explosion – human caused or accidental
- Major accidents – personal injury or property damage
- Public Health
- Act of Terrorism, involving hazardous materials

National Fire Protection Association ([NFPA](#)) 471, *Recommended Practice for Responding to Hazardous Materials Incidents*, Section 3.3.13, defines an “Emergency” as;

**Emergency**- *“A fire, explosion or hazardous condition that poses an immediate threat to the safety of life or damage to property”.*

### **Responsibilities**

#### **a. Primary**

The initial responsibility of the University of Minnesota Police Department (UMPD) is to provide direction and control at incidents involving the release of a hazardous material. In conjunction with UMPD, the Department of Environmental Health and Safety (DEHS) will provide direction, evaluation and mitigation at a release of a hazardous material. The Minnesota Incident Management System (MIMS) will be implemented at every scene.

#### **b. Supporting**

If the incident is beyond the capabilities of DEHS, then the local fire department will be requested. Through the local fire department, a hazmat team from the State of Minnesota

may also be utilized. Outside agencies will follow their specific operational guidelines and EOP's while operating at a University of Minnesota facility.

During incident operations, representatives from the local agencies as well as representatives from the University of Minnesota will use a Unified Command System to stabilize, mitigate and recover from incidents involving the release of a hazardous material.

Emergency Management personnel may be used at hazardous materials emergencies to assist in the coordination of response agencies and to provide support to the command post.

- A. At the University of Minnesota campuses, the following officials will recommend evacuations:
1. Fire Chief or designee – fire/radiological/hazmat incidents
  2. Police Chief or designee – all others
  3. University Officer of the Day
- B. The Police Department will be responsible for:
1. Providing and coordinating security in the affected areas of a critical incident and evacuation areas to protect private and public property.
  2. Providing security in the affected incident area and evacuation area to insure the Personal safety of the public and emergency response personnel.
  3. Providing security to congregate care facilities as resources are available and required.
  4. Providing assistance and coordination of evacuations requested by the affected Municipal Emergency Responders.
  5. Providing traffic control for critical incidents and all evacuations.
  6. Providing coordination of assistance to evacuated individuals with disabled vehicles and mobility-impaired persons.
  7. Providing assistance and coordination of any subsequent criminal investigation including evidence preservation & collection, crime scene processing, interviewing and interrogation, and other investigative functions.

## **Annex M- Hazardous Materials Protection- Operations**

### **Purpose**

The purpose of this operating guideline is to describe, in general terms, how the University of Minnesota officials will respond to a serious hazardous materials incident/accident, whether it occurs within or outside of the University.

During all incidents involving a hazardous material, individuals operating at the scene will follow the response guidelines set forth in 29 CFR 1910.120 and [National Fire Protection Association \(NFPA\) 471](#), as applicable.

### **I. Response to Hazardous Materials Incidents**

#### **A. Pre-Identification and Analysis of Risk.**

In response to the requirements and recommendations contained in the Superfund Amendments and Reauthorization Act (SARA) of 1986, Title III, as well as other legislation, the following facilities/locations within the university has been pre-identified:

1. “Covered” facilities. - Facilities that possess extremely hazardous substances. *(See Resources, 302 Facilities)(See [Hazardous Materials Locations –U of M Twin Cities](#))*
2. Other facilities that may contribute to additional risk due to their proximity to “covered facilities”. *(See Resources, Other Hazardous Materials Facilities)*
3. Facilities (schools, hospitals, nursing homes, etc.) at risk due to their proximity to facilities with extremely hazardous substances. *(See Resources, Facilities in Proximity to HAZMAT locations).*
4. Transportation routes (highway, railroad lines, rivers, etc.) for extremely hazardous substances. *(See Resources, Transportation Routes).*
5. Pipelines (as defined in Minnesota Statutes, Section 299J). *(See Resources, Pipelines)*

The Department of Environmental Health and Safety will develop, maintain, review, and update data, operating procedures, and guides to ensure successful responses and recoveries.

- Methods for determining release within 302-regulated facilities;
- Sensors for chlorine release are in place at Cook, Aquatics Center, and the St. Paul Gymnasium. DEHS has a hand-held monitor for determining a release and its extent.
- Sensors for ammonia are in place at Food Science and Nutrition mechanical areas. For occupied spaces, occupants call Facilities Management or 9-1-1. Facilities Management

has hand-held monitors for determining a release. DEHS has a hand-held monitor for determining a release and its extent.

- For facilities utilizing ammonia (NH<sub>3</sub>), procedure for large releases is to call 9-1-1
- For all other releases, procedure is to call 9-1-1. See UMPD [Emergency Procedures Manual](#) and EHS [AHERPS manual for response procedures](#).
- For spill response equipment lists, see *DEHS Twin Cities/FUMC Spill Response plans*.
- For locations of facilities potentially impacted by releases at either 302-regulated facilities or transportation routes, maps are maintained at the U of MN Emergency Operations Center.

**B. Determination that a release of Hazardous Materials has occurred:**

1. **Facilities:** Facilities located within the University that use, store, manufacture or transport hazardous materials are responsible for developing systems and training their employees so as to be able to promptly determine and report that a release of hazardous materials has occurred. Facilities located at the University of Minnesota Campuses have developed and maintain emergency response plans as specified in 29 CFR 1910.120 or emergency action plans as specified in 29 CFR 1910.38(a) that employees will follow in the event of a release of those materials. Copies of these plans are maintained also in the Department of Environmental Services.

2. **Emergency Responders:** Similarly, University employees who respond to hazardous materials incidents have received training designed to help them properly respond to such incidents. At the minimum, personnel are trained at the First Responder Awareness level, as defined in 29 CFR 1910.120 and [National Fire Protection Association \(NFPA\) 472](#), as applicable.

**C. Response to a Release of Hazardous Materials:**

1. The University has conducted a hazard analysis to determine potential populations and facilities that might be affected by a hazardous materials emergency. The resource/methodology used to determine the area of the University likely to be affected includes the following: the [U.S. DOT Emergency Response Guidebook](#) and *CAMEO computer software system*.
  - a. **University of Minnesota Emergency Response Plan for Chemical Releases**, for Compliance with OSHA 29 CFR 1910.120. This document is available in the office of the Emergency Coordinator for chemical releases, 100C Thompson Center for Environmental Management, 501 23<sup>rd</sup> Ave SE, Mpls. MN 55455; it is also available with the spill response equipment at the same location.

- b. **University of Minnesota Large Quantity Generator Hazardous Waste Contingency Plan for the Twin Cities Campus.** This document is available in rooms 100 and 100C Thompson Center for Environmental Management, 501 23<sup>rd</sup> Ave SE, MPLS, MN 55455.
  - c. **After Hours Emergency Response Pager System Manual.** This document is available in rm.100C Thompson Center for Environmental Management, as well as copies for each of the on-call Environmental Health and Safety staff; and details the University's system for notifications required for 302 facilities for releases of extremely hazardous substances. This document assures 24-hour responsiveness to chemical releases.
2. Facilities within the University that possess extremely hazardous substances are required to develop and maintain emergency response plans as specified in 29 CFR 1910.120, or emergency action plans as specified in 29 CFR 1910.38(a) that their employees will follow in the event of a release of those materials. At the minimum, facilities are required by law to immediately notify the following in the event of an accidental emergency release, where applicable:
    - a. Local Authorities (911)
    - b. State Duty Officer (651) 649-5451 / 1-800-422-0798
    - c. National Response Center 1-800-424-8802

#### **D. Hazardous Materials Response Capabilities.**

Police Department and Emergency Medical Service personnel are trained at the first responder awareness level. Some individuals may be trained at a higher level. However, they will only operate at a hazardous materials incident at the level their organization responds to.

DEHS hazardous materials response units are equipped with monitoring equipment for the most anticipated organic and inorganic compounds. Maintenance records and specific capability specifications are available from the DEHS offices at 612-626-6002 or at the Thompson Center for Environmental Management, 612-626-7744.

Both the Minneapolis and St. Paul Fire Departments are staffed such that the first responding fire personnel are trained at least to the first responder operations level with a commander trained at the hazardous material technician level; both groups have direct access to HazMat teams trained at the hazardous material specialist level, with many trained as incident commanders. The St. Paul Fire Department operates one of the regional State Chemical Assessment Teams. Both departments maintain highly trained and experienced Hazardous Materials response units.

The University's hazardous material responders are trained, at a minimum, at the hazardous material technician level. Many are trained at the hazardous material specialist level and all emergency coordinators from Environmental Health & Safety at the incident command level. DEHS provides continuous training to the emergency responders who respond to hazardous materials releases. **Training records are kept on file in the DEHS office located at 100C Thompson Center for Environmental Management, 501 23<sup>rd</sup> Ave SE, Mpls. MN 55455.**

**DEHS has a fully functioning, industrial-scale hazmat team available only during workday hours. After hours, DEHS' role is incident management with understandings in place with Minneapolis and St Paul Fire Departments, as well as environmental contractors, for hands-on responses.**

DEHS and first responders will begin their determination of the area affected by a hazardous materials release by identifying/verifying the hazardous material(s) involved. For the most part, they will then rely on the following methodology to determine the need for evacuation, and the area of the University to evacuate.

- a. Material Safety Data Sheets (MSDS)
- b. [DOT Emergency Response Guide Books](#)
- c. Previous Hazard Analysis
- d. Cameo Software
- e. IAQX software developed by EPA for indoor spills
- f. [NIOSH Pocket Guide](#)
- g. [Hazardous Materials Guide for First responders](#)

#### **E. Hazardous Materials Equipment**

A listing of the emergency equipment and facilities is available for use for response to a hazardous materials accident and is located with DEHS staff.

A listing of emergency equipment and facilities owned by private agencies available for use in response to a hazardous materials accident is also located in the resources area of this section and the University's Emergency Response Plan for Chemical Releases

#### **F. Evacuation / Shelter in Place,**

[Guideline for Evacuation](#)      [Guideline for Sheltering In-Place](#)

A description of the evacuation/shelter-in-place procedures, information to be used for the protection of the public in the event of a hazardous materials release is contained in the [Annex G- Evacuation/Traffic Control/Security Section](#).

The decision on evacuation/ shelter in place will be made by the on-scene incident commander. If the EOC is operating the decision will be made in the EOC.

**II. STATE SUPPORT**

In the event of hazardous materials incident that is beyond the capabilities of the University, assistance from State agencies can be requested. Such requests should be submitted to the State Duty Officer.

**III. FEDERAL SUPPORT**

- A. In the event of a hazardous materials incident that is beyond the capabilities of the University, local responders and state government, the National Regional Response Team can be requested through the [Minnesota Pollution Control Agency](#) (MPCA). Requests for such assistance should be submitted to the [HSEM Duty Officer](#).
- B. Reimbursement of costs for a hazardous materials response may be available. To be eligible for reimbursement, contact the [National Response Center](#) (1-800-424-8802) and the MPCA within 24 hours of the incident, and subsequently submit an application for reimbursement.

**Response to Radiological Incidents****I. Purpose:**

It is recognized that radiological incidents could develop both from University related uses of radioactive materials in medical and research applications, and from non-University related incidents (e.g. dirty bomb, nuclear detonation, major nuclear power plant accident or nuclear fuels transportation incident). The existing University Hazardous Materials Emergency Response Plan incorporates notification and response procedures for University related radiological incidents. NOTE: Because the activity level and volume of radioactive material used in research and medical applications at the University is very small, our history of incidents has shown that essentially all University related radiological incidents fall within the “Level 1” hazardous incident classification listed below (page M-11). This section describes responsibilities for planning, coordination, response, monitoring and mitigation in the event of radiological incidents at the University of Minnesota.

**A. Radiation Protection Division**

The University Radiation Safety Officer (RSO) directs the efforts of the University Radiation Protection Division within DEHS. The RSO is responsible for assuring that skills, knowledge, data and information needed to minimize the effects of the University related radiological incidents are made available and utilized. The RSO will oversee preparedness and mitigation efforts and will coordinate radiation monitoring, decontamination and restoration in the event of a University related radiological incident. With respect to University related radiological

incidents, the RSO will ensure that appropriate records are maintained and actions taken to ensure compliance with state and federal regulations as they relate to these incidents.

**B. DEHS is responsible for:**

1. Assuring that skills and knowledge, data and information (e.g., radiation readings, damage reports, response requirements, chemical properties, exposure estimates), and materials needed to minimize the effects of University related radiological accidents or threats are available and utilized in time of emergency.
2. Coordination of the University's overall radiological preparedness efforts including planning, training, exercising, and developing radiological resources.
3. Coordination of the University's overall radiological response and recovery efforts including monitoring, reporting, assessment, containment, decontamination and protective actions.

C.UMPD is responsible for supporting radiological monitoring and decontamination operations within the University.

**D. The local fire department when called is responsible for:**

1. Supporting emergency operations during radiological incidents.
2. Assisting in the decontamination process areas.

**E.1.** In the event of a widespread radiological incident that affects the University (e.g. nuclear detonation, dirty bomb detonation, major nuclear power plant accident or nuclear fuels transportation incident); the State of Minnesota and/or Federal hazardous materials teams will be called upon for instrumentation, guidance, monitoring, decontamination, remediation and medical evaluation. University's RPD staff will respond, if available, to assist in the execution of this responsibility.

**E.2.** University Facilities Management, if available, will assist with the decontamination of, or arrange for decontamination of University buildings, roads and bridges, and assist with the safe evacuation of people. (NOTE: this is only in the event of a widespread radiological incident and should be coordinated with any State of MN Plan that covers such incidents.)

**E.3** The Minnesota Agricultural University's Extension Director and the USDA Director are responsible for assisting with the dissemination of public information on radiological recovery to the agricultural community, primarily with regard to protection of the food chain. (NOTE: again this is only in the event of a widespread radiological event. The State of Minnesota already covers this responsibility under its Nuclear Power Plant

Emergency Response Plan as part of the operating procedures of the MN Dept. of Agriculture.)

## **II. Operations Policies;**

- A.** University related radiological response operations will be directed and controlled at the scene during a small-scale radiological incident. During a large-scale University related radiological incident, operations will be directed from the University's Emergency Operations Center (EOC). If there is a significant probability that the University could be a nuclear hazard area, radiological protection operations will be moved to an alternate location.
- B.** During a widespread radiological incident, information will be obtained from state and regional EOC's when adequate communication exists. The primary center of University radiological operations shall be the University's EOC.

### **Hazardous Incident Materials Planning**

#### **A. Objectives**

1. Establish an operational structure that has the ability to function not only within the University, but also during "off-site" emergencies affecting the University.
2. Identify the necessary authorities, responsibilities, and actions of federal, state, local and private sector agencies so as to minimize damage to people, the environment, and property, and to aid in mitigating the hazard.
3. Describe the operational concepts, organization, and support systems required to respond appropriately to a hazardous materials incident/accident.

#### **Scope**

##### **1. Geographical Factors**

This guideline is directed at both hazardous materials incidents that occur inside/outside the University and require a mutual aid response.

##### **2. The Hazard**

The hazard shall include actual or potential fires, spills, leaks, ruptures, or contamination.

##### **3. The Hazardous Material**

The hazardous material may include: explosives, flammables, combustibles,

compressed gases, cryogenics, poisons, toxins, reactive agents, oxidizing agents, radioactive materials, corrosives, carcinogenic, etiological agents, or any combination thereof.

#### 4. **The Incident**

This guideline is to be followed in the event of a hazardous materials incident associated with any type of transportation vehicle, industrial facility and/or storage site or waste disposal site.

### **Hazardous Materials Incident Classification**

There are three (3) hazardous materials incident classification levels. These three levels are for general guidance only and do not directly correlate to any activation criteria for University response agencies or other resources. Refer to the [Emergency Procedures Guide](#) for specific department notifications. The basis used for determining the classification level of a hazardous materials incident is as follows;

1. Level of technical expertise required to mitigate the incident
2. Extent of the University, local, state, and federal government involvement.
3. Extent of required civilian evacuation
4. Extent of injuries and/or deaths.
5. Extent of complexity of decontamination procedures.

#### A. **Level 1 Incident**- DEHS Hazmat Response Team Only.

1. Spills, leaks, ruptures, and/or fires involving hazardous materials that can be contained, extinguished, and/or abated using equipment, supplies, and resources immediately available to workers in the immediate area or by trained responders as maintenance activities .
2. Hazardous material incidents that do not require evacuation of civilians outside of the immediate area.

#### B. **Level 2 Incident**- DEHS Hazmat Response Team (Non-Emergency), Local Fire/Hazmat Team (Emergency).

1. Hazardous materials incidents that can only be identified, tested, sampled, contained, extinguished, and/or mitigated using the resources of a **Technician** trained Hazardous Materials Response Team: a hazardous materials incident that requires the use of Chemical protective clothing and equipment.
2. Hazardous materials incidents that require evacuation of civilians within the immediate area of the incident.

**C. Level 3 Incident- Local Fire/ Hazmat Team, DEHS Support Emergency Operations.**

1. Spills, leaks, and/or ruptures that can be contained and/or mitigated using the highly specialized equipment and supplies available to a **Technician** trained hazardous materials response team with capabilities beyond the University's team capabilities under the circumstances.
2. Fires involving hazardous materials that are allowed to burn due to the ineffectiveness or dangers associated with the use of extinguishing agents, or the unavailability of an extinguishing agent: and/or there is a real threat of container failure: and/or an explosion, detonation, BLEVE, or a container failure has occurred.
3. Hazardous materials incident that requires evacuation of civilians beyond the immediate area of the incident: extending across jurisdictional boundaries and/or there are serious civilian injuries and/or deaths as a result of the release.
4. Hazardous materials incident that requires a hazardous materials response team: and/or decontamination of civilians or personnel is required at the scene.
5. Hazardous materials incident that has become one of multi-agency/multi-jurisdictional involvement of large proportions.
6. Fires involving hazardous materials that allow for controlled burning for a defined period of time, or are allowed to burn until the fuel load is exhausted. NOTE: For fires at the University of Minnesota, refer to the [Annex H- Fire Protection](#).

**Scene Management:**

All University responders and other public safety agencies responding to a hazardous materials incident shall function under the Incident Management System (IMS) adopted by the University in which jurisdiction the incident is located.

All hazardous materials incidents at the will be managed following the guidelines set forth in the [Direction and Control Annex](#) of the Emergency Operations Plan.

**Organizational Roles & Responsibilities****1. Communications**

DEHS staff is notified of emergency response needs by telephone and pager. During regular work hours, UMPD 9-1-1 dispatch center calls DEHS at 6-6002. After hours, the UMPD 9-1-1-dispatch center notifies the "After Hours Emergency Response Pager System (AHERPS)." Notification procedures are detailed in the Emergency Operations Manual.

DEHS staff has access to two-way hand-held radios with UMPD frequencies, pagers, and cell phones.

## 2. Fire Department & EMS

Approach the scene from Upwind and Uphill. Set/ follow the established control zones/ corridors. Coordinate with the Incident Commander for specific scene operations.

The fire department will be the local incident commander of the incident, when on the scene.

## 3. Incident Commander Responsibilities

The incident commander (IC) shall be responsible for supervising the mitigation of hazards at the scene of a hazardous materials incident. Upon the IC's arrival, he/she shall secure and maintain control at the scene until properly relieved.

1. Responsibilities of the IC may be carried out from remote locations, such as an EOC during large, complex or multi-jurisdictional incidents.
2. Notify appropriate University, city, state, and federal agencies. One call to the [MN State Duty Officer](#) at (651) 649-5451 or 1-800-422-0798) will ensure that all appropriate state agencies are notified.
3. Work with the fire departments designated safety officers to identify and establish a restricted zone, and ensure that non-essential personnel are removed and kept out of that zone.
4. Upgrade the level of the incident as required.

## 4. Safety Officer

A University of Minnesota safety officer shall be designated at the scene of all hazardous materials incidents when University personnel are involved. The safety officer is responsible for the safety of all personnel at the incident scene: this includes first responders from outside the University's, mutual aid responders, and the public. The safety officer shall work directly with the IC and Hazardous Materials Team (HMT). The safety officer shall inform the IC, or HMT leader of any unsafe action taken at the incident scene and may make recommendations to alter or terminate actions being taken. *(The safety officer has authority to terminate actions that are not safe).* Will outside responders recognize the authority of the University safety officer?

## 5. University of Minnesota Police Department

Upon arriving at the scene, responding UMPD officer will determine the level of the incident and will provide assistance with incident management, traffic control, evacuation and other incident needs.

## 6. Remediation Agencies

The remediation response (i.e. clean-up contractor) agencies will assist in the mitigation of a hazardous materials incident upon the request of the local incident commander.

## 7. Emergency Management

Upon the arrival of the Emergency Manager (EM), the IC will brief the EM as to actions already taken and the plan to stabilize and/or mitigate the hazard. The EM may elect at that time to serve as overall resource coordinator for the incident. Other personnel will remain under the direct command of their senior officers at the scene.

## 8. State Agency of Jurisdiction

In the case of major hazardous materials incidents/accidents, the state agency(s) having jurisdiction over the regulated commodity/product involved, cleanup and site restoration may send representatives to the scene. Upon their arrival, the IC should brief them as to the status of the incident, actions taken, name of the responsible party, etc. The IC should work closely with the state agency representative(s) from that point to further response actions to be taken. However, all parties must keep in mind that the University and local emergency responders will remain responsible for both general public and first responder safety.

## 9. State Hazardous Materials Regional Response Teams

In the event that the requirements of the incident exceed the capability of local resources, assistance from the State HAZMAT Regional Response Teams may be requested, by the Incident Commander. (*Local government requests for such assistance should be submitted through state duty officer*). On their arrival, RRT representatives will coordinate on-scene activities with the incident commander. The RRT will not assume command of the incident. The IC or his/her designee will work closely with the RRT in use of local resources, public and responder safety.

## 10. Federal Regional Response Team EPA Region V

In the event that the requirements of the incident exceed the capability of state and local resources, assistance from the (federal) regional response team (RRT) may be requested, by the MPCA, from EPA region V. (*Local government requests for such assistance should be submitted through state duty officer*). On their arrival, RRT representatives will assume on-scene coordinator duties. The IC or his/her designee will work closely with the RRT in use of local resources, public and responder safety.

### Isolation Control Zones

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**A. Hot Zone**

The hot zone is the area immediately dangerous to life and health that requires complete, appropriate protective clothing and equipment based on hazard analysis. Entry requires approval of the operations officer, hazardous materials team leader and/or the safety officer. Complete back-up/rescue teams and decontamination must be in place before entry operations begin. Only those with a specific job assignment (*and appropriate training*) may enter for the amount of time specified by the safety officer.

**B. Warm Zone**

The Warm Zone is the area located between the Hot Zone and the Cold Zone and is considered a buffer where less personnel protection is required. The Warm Zone shall be utilized for entry team decontamination and may be used for gross decontamination of victims. The Warm Zone is restricted to operational and support personnel essential to hands-on work performance in the Hot Zone.

Identification of a Warm Zone shall be the responsibility of the IC. The Warm Zone may be modified by the safety officer as appropriate.

**C. Cold Zone**

The Cold Zone is an area of relative safety for those agencies directly involved in the operation at the scene. This may include the IC, command post personnel, representatives from appropriate state, federal, or local agencies and the media.

Identification of the Cold Zone shall be the decision of the IC, in consultation with hazardous materials specialists and the safety officer. The Cold Zone may be modified by the safety officer as appropriate.

**General Procedures/Handling/Hazardous Materials Incident**

The following general guidance applies to all University personnel responding to a hazardous material incident:

**1. Initial Response Action in the Open**

1. Stop a safe distance **upwind and uphill** from the incident.
2. Identify the conditions involved with the scene: smoke, fire, leakage, colors, vapors, etc.
3. Identify topographic influences: hills, curbs, waterways, culverts, etc.
4. Identify any potential **life hazard** locations in the area: schools, nursing homes, hospitals, day cares, etc.
5. Identify the product before beginning operations.

## 2. Initial Response Action Inside a Structure

1. For Level 3 Incidents, keep all apparatus a safe distance from the building and **upwind**.
2. **For Level 1 & Level 2 incidents, where ventilation is known or controlled to allow closer access, set up down the corridor or from adjoining floors.**
3. Identify the product before entering the affected area.
4. Responders may, with proper protective clothing and equipment (PPE), can enter to assess the situation, with the assistance of one qualified representative of the occupant/ company or department when available. Additional personnel in equal (PPE) will back up the initial entry personnel.
5. Decontamination must be established prior to any entry operations.

## 3. Identification of Product Involved

1. From the DOT placard.
2. From the UN identification number
3. From the product label.
4. From the STCC number.
5. From the company or departmental representative
6. From the driver of a transport.
7. From the engineer/conductor of a train.

## 4. Secure Area and Ensure Personnel Safety

1. Do not allow access to immediate area.
2. Do not remove any material from the scene.
3. Allow only qualified personnel to enter the incident area wearing proper PPE.

## 5. Determine Potential Harm through appropriate Reference Materials

1. DOT Emergency Response Guidebook
2. NFPA Fire Protection Guide on Hazardous Materials.
3. NIOSH/OSHA Pocket Guide
4. MSDS
5. Cameo program
6. Internet resources
7. CHEMTREC
8. IAQX Spill Software (EPA)

## 6. Establish a Command Post and Communications System

1. Set up command post in an isolated area and a safe distance from

- the scene: preferably upwind and uphill for outdoor releases.
2. Communications center should have capability of communicating with all participating agencies and jurisdictions.
  3. Incident Command may be transferred to the EOC in accord with the University's plan. (See [Direction and Control annex](#)).
7. **Establish an Emergency Medical Services (EMS) Area**

DEHS staff is involved in assessing the hazards posed by various situations. In the event of chemical or radiological incidents, DEHS staff will assess atmospheric and surface contamination or concentration levels and, whenever appropriate, confirm such readings when outside agencies are involved. This information will be used to decide issues regarding evacuation sheltering-in-place and/or return to given locations.

In the event of biologic hazards, DEHS staff will consult with experts including the Minnesota Department of Health, the Boynton Health Service and/or others and make recommendations to the EOC.

- A. Coordinate with local EMS provider to establish an EMS area at the incident that provides easy entrance and exit, yet remains remote from hazardous operations.

### **Establish an Action Plan (*Responsibility of IC*)**

1. **Evacuation or Shelter in Place**

Along with HSEM and Building Codes, DEHS staff is involved in pre-planning activities for the possible evacuation of the campus. In addition, DEHS and Building Codes staff is involved in developing plans and procedures for evacuation of individual facilities.

In the event of hazardous material situations, DEHS staff will assist in determining the need to evacuate and whether it is safer to evacuate or to shelter in place. The senior DEHS staff member on the scene of an emergency will coordinate these recommendations through the IC. At the Emergency Operations Center (EOC) the Director of University Health and Safety (or his/her designee) will contribute to the University's decision-making process in this regard.

In the event University of Minnesota facilities are requested for shelter space (either by outside agencies or internal departments), DEHS staff will be involved in selecting the facilities to be used and ensure that such facilities are safe for occupancy.

  1. Secure the perimeter of the area.
  2. Arrange transportation for evacuation.
  3. Move people to a designated site (See [Evacuation, Traffic Control, and Security Section](#)).

4. Calculate downwind/downhill hazard, and notify occupants of potential hazards and to prepare for evacuation.
5. **Large-scale evacuation should be considered when:**
  - a. Potential exists for a possible life-threatening toxic release, but the release has not taken place.
  - b. Discharge has taken place but people are sufficiently downwind to allow evacuation.
  - c. People are threatened by a wind shift.
  - d. Benefits of evacuation out-weigh the safety hazard of evacuation, and
  - e. Shelter in place will not sufficiently protect people.
6. Shelter in place should be considered when:
  - a. The incident will be of short duration and is of low human health hazard.
  - b. Vapors or gases released have vapor specific gravity of less than 1.0.
  - c. If there is not sufficient time to evacuate, or the path of a toxic cloud will not allow for evacuation.

### **Rescue**

1. If the victims are still alive, every attempt will be made to affect a rescue if the appropriate PPE is available.
2. If the Hot Zone entry is to be made, victim removal will take priority over all other Hot Zone missions.
3. Ensure that decontamination station is established and ready to receive victims prior to making entry. Notify receiving medical facility of type and length of exposure.

### **Containment**

- A. Only those personnel trained at the appropriate level, and wearing appropriate PPE will participate in containment activities.

### **Determine Additional Resources**

1. Determine need for higher level Haz-Mat Response and request as needed.
  - i. Authority for request rests with IC.
2. Notify Appropriate University's, local and State Agencies.
  - i. Determine need for mutual aid for additional personnel or equipment.
3. Request cleanup contractor as soon as possible. If non-University entities are involved, responsible party should be part of the decision.

### **Initiate the Action Plan**

1. Execute Evacuation/Shelter In-Place

2. Initiate Control Measures According to Site Safety Plan.
3. Begin Containment
4. Extinguishment (*If possible and recommended*)
5. Clean-up, disposal, and site restoration (*generally the responsibility of the responsible party*).

The IC shall attempt to identify the responsible party. When in the opinion of appropriate University, local, state or federal technical personnel, the substance must be cleaned up according to appropriate statutes or regulations, the responsible party or their representative must arrange with a reputable and licensed hazardous waste handler for clean-up and disposal services.

In the event the responsible party refuses to cooperate or cannot be found, the incident commander should contact the state agency having jurisdiction to arrange for clean-up and removal of any chemical, hazardous material or waste released or deposited upon university property.

University personnel may standby at the scene for as long as necessary to ensure the safety of the public and shall oversee the clean-up in an advisory capacity.

### **Media Relations**

The Public Information Officer (PIO) for the University of Minnesota will be assigned by the University News Service. It is anticipated that in many situations, a spokesperson from DEHS will be desirable. In that case, the spokesperson will be selected by the director of DEHS or Senior DEHS staff and will coordinate with the PIO and the University Services Associate Director of Communications.

The Director of Emergency Management and the Director of Environmental Health, and Safety, or their designees, will be responsible for the preparation of instructions for people who must evacuate from a high-risk area, and instructions for sheltering in place. This information will be developed and released in coordination with the Department of University Relations.

### **Evaluate Progress**

1. **Safety of Personnel**
  - a. Continuously check to ensure that all personnel are operating in appropriate PPE.
  - b. Ensure personnel are operating in safe area and using safe procedures.
2. **Evaluation of Tactical Procedures**
  - A. Verify that all savable persons have been rescued.
  - B. Verify that the evacuation is complete and that persons evacuated

- have been sheltered.
- C. Ensure that haz-mat products are still the same as originally identified. Determine if chemical properties have changed, if product hotter or colder, or if it has mixed with another substance.
  - D. Verify that the command post is functional, proper agencies have been contacted and these agencies have received updated reports.
  - E. Verify that current weather data has been obtained and that any change is taken into consideration.
  - F. Verify that the product is isolated and contained and that the scene is secure.
  - G. Verify that vapor is suppressed/diluted and that periodic application is scheduled.
  - H. Verify status of expendable supplies and that additional equipment meets the needs of the incident.
  - I. Verify that the decontamination station is functioning properly and that it is being used.
  - J. Verify that cleanup arrangements have been made and determine if fire department support will be required.
  - K. Ensure that a roster is kept of all personnel involved at the scene for subsequent medical evaluation of those personnel.

### **Decontamination:**

#### **1. Purpose:**

Decontamination is the reduction or removal of hazardous substance. The objective is to reduce exposure to an acceptable level.

#### **2. Responsibility:**

The University's Decontamination Officer shall be responsible for decontamination activities for the Universities Hazardous Materials Team. Who is the University's Decontamination Officer?

The local fire department will be in charge of the decontamination of patients and victims and emergency responders from a hazardous materials emergency.

In a widespread hazardous materials emergency, decontamination of personnel engaged in recovery operations will be the responsibility of the various operational services, such as fire departments, police departments, etc. Many persons would be responsible for decontamination of themselves, their families, personal property, and equipment. Decontamination instructions may be issued over the emergency broadcast system by state and federal government officials.

#### **3. Equipment:**

- a. Equipment for decontamination shall be that which is integral to the University or other facilities. i.e., showers, soap, housekeeping mops and brooms, etc.
- b. Decontamination equipment for outside the facilities will be furnished by the agency conducting such operations. i.e., fire departments, highway departments, cleaning contractors, etc.

[Sample Emergency Decontamination System](#)

## **Annex M- Hazardous Materials Protection- Resources**

### **Release Determination Procedures Facilities**

Most hazardous chemical facilities in University rely on employee observation as the established method of determining that a release of a hazardous substance has occurred. A few facilities have monitor capabilities for release information. These monitors are monitored by different means. Some monitors are 24 hours a day by an alarm company and some are vicinity only.

Facilities are required to notify local authorities of the incident to insure proper response. This is sometimes done directly or through the State Duty Officer.

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### **Population/Area at Risk**

The hazard analysis conducted for University's has determined the greatest risk to the residents of the University's to be from transportation accidents. It is impossible to determine the substance due to the extreme versatility of chemicals passing through the area by highway and railway. Maps of the Highway and Railway corridors in this section of attachments have included the estimated boundaries of the areas of greatest risks.

The population at risk for the University as a result of these corridors would vary depending on corridors involved, location, chemical involved, and wind direction. Potentially the entire population of these communities could be at risk. Areas outside of incorporated municipalities within the University's are not densely populated and the number of individuals at risk would be low.

In addition to transportation hazards, hazard analysis indicates potential from agricultural, industrial and residential accidents. Facilities would present the next highest hazard with agricultural and residential presenting the final areas of concern.

Facilities/ Populations which cause a concern are;

- Canadian Pacific Rail Yard
- Fairview University Medical Center
- Fairview University Riverside Hospital
- Masonic Memorial Hospital
- Child Care Center- 15<sup>th</sup> Ave SE

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**HAZARDOUS MATERIALS EXPOSURE TO THE UNIVERSITY OF MINNESOTA**

- Transportation (Highway/Pipeline/Rail)
- Industry
- Agricultural
- Residential
- Gas, Propane, Corrosives, Chlorine, Anhydrous Ammonia
- Light and Heavy Industry
- Laboratories
- Warehousing

**SARA 302 "COVERED FACILITIES"**

The following is a list of covered facilities according to SARA. Map, hazard information, and contact information is on file at the local municipal fire departments, local medical facilities, Department of Environmental Health and Safety and the Emergency Management Office.

**Department of Public Safety**

**Emergency Response Commission  
Listing of 302/312 Facilities and 312 Chemicals**

[For a complete list with actual locations  
Hazmat Locations- Minneapolis Campus  
Additional Hazmat Locations- Minneapolis  
Hazmat Locations- St. Campus  
Additional Hazmat Locations- St. Paul](#)

**Emergency Management Report**

<b>Facility Name and Address</b>	<b>Status</b>	<b>Contact Name and Phone Number</b>
U of MN- MINNEAPOLIS 100 CHURCH ST SE MPLS 55455	Active	ANDREW PHELAN

Facility Name and Address	Status	Contact Name and Phone Number					
<b>Chemicals On</b> <b>2000 1994</b> CHLORINE* 03 DIESEL FUEL 05 FREON (22 MONOCHLORODIFLUOROMETHANE) 0404 GASOLINE 04 LEAD, METAL 04 NITROGEN (REFRIGERATED LIQUID) 04 SULFURIC ACID* 04 NA	<b>Max</b> 03 05 0404 03 04 04 04 04 NA	<b>Ave</b> 365 365 365 365 365 365 04	<b>Days</b> L24 A14 R26 B14 R14 A27 365	<b>Storage</b> NA B14 NA F14 NA NA NA R14	<b>Y</b> NA C14 NA NA NA NA NA M14	<b>2000</b> NA D14 NA NA NA NA NA NA	
U OF MN – Mpls Heating Plant 1180 Main St SE Minneapolis MN 55414	Active	MIKE NAGEL (612) 625-0597 ERC ID 27-135-0192 (612) 625-2802 303 312 313					
<b>Chemicals On</b> LIMESTONE 05 CALCIUM OXIDE 04 COAL NA DIESEL FUEL #2 06 SODIUM HYDOXIDE NA SULFURIC ACID* TURBINE OIL	<b>Max</b> 04 04 07 06 04 04 04	<b>Ave</b> 365 365 365 365 365 365 365	<b>Days</b> H14 H14 07 A14 03 365 365	<b>Storage</b> NA NA 365 C14 365 C14 C14	<b>Y</b> NA NA H14 A14 A14 NA NA NA NA	<b>2000</b> NA NA R14 Q14 NA NA NA NA NA NA	
U OF MN – UNIVERSITY STORES 2901 TALMAGE AVE SE MINNEAPOLIS 55414	Active	EDWARD KIMMEL (612) 624-4570 ERC ID 27-135-0193 (612) 625-2802 302 312 313					
<b>Chemicals On</b> SULFURIC ACID*	<b>Max</b> 03	<b>Ave</b> 03	<b>Days</b> 365	<b>Storage</b> R14	<b>Y</b> NA	<b>2000</b> NA NA	

Facility Name and Address	Status	Contact Name and Phone Number
U OF MN – SUPER COMPUTER CENTER 1200 WASHINGTON AVE S MPLS, MN 55414	Active	ELIZABETH STADTHER (612) 337-3501 ERC ID 27-135-0194 (612) 625-2802 302-312-313
<b>Chemicals On</b> DIESEL FUEL	<b>Max</b> 04	<b>Ave</b> 04
	<b>Days</b> 365	<b>Storage</b> B14
	<b>N</b> NA	<b>2000</b> NA NA NA
U OF MN - ST. PAUL 1420 ECKLES AVE ST. PAUL, MN 55108	Active	ANDREW PHELAN (612) 626-7744 ERC ID 62-070-0203 (612) 625-2802 302 312 313
<b>Chemicals On</b> AMMONIA, ANHDRS*	<b>Max</b> 02	<b>Ave</b> 02
		<b>Days</b> 02
		<b>Storage</b> 365 R26
		<b>Y</b> NA
		<b>2000</b> NA NA NA
BITUMINOUS COAL NA NA	06	06
		365 R14
		NA NA NA
CHLORINE*	02	02
		365 L24
		NA NA NA
DIESEL FUEL	04	04
		365 B14
		C14 A14
		NA NA NA
FUEL OIL	06	06
		365 A14
		NA NA NA
GASOLINE	04	04
		365 B14
		NA NA NA
LEAD	04	04
		365 R14
		NA NA NA
NITROGEN (REFRIGERATED LIQUID)	03	02
		365 A27
		NA NA NA
OXYGEN (REFRIGERATED LIQUID)	03	03
		365 R27
		NA NA NA
SULFURIC ACID* NA NA	03	03
		365 C14
		R14

\* = Extremely hazardous Substance (EHS)  
Sorted by Status

**Additional Facilities of Concern**

The following are populations of concern. Each has emergency response and evacuation plans in place.

- Fairview University Medical Center- Harvard Street at E. River Road
- University Child Care Center – 1600 Rollins Avenue S.E.
- University Laboratory School – Child Development Building

**Release Scenario's**

The following scenarios were completed using the CAMEO, ALOHA, and Marplot programs. The scenarios are estimated quantities from 1 container.

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[150lb Chlorine Cylinder- On Campus- Minneapolis](#)

[Chlorine Rail Car- Off Campus- Minneapolis](#)

[150lb Chlorine Cylinder- On Campus- St. Paul](#)

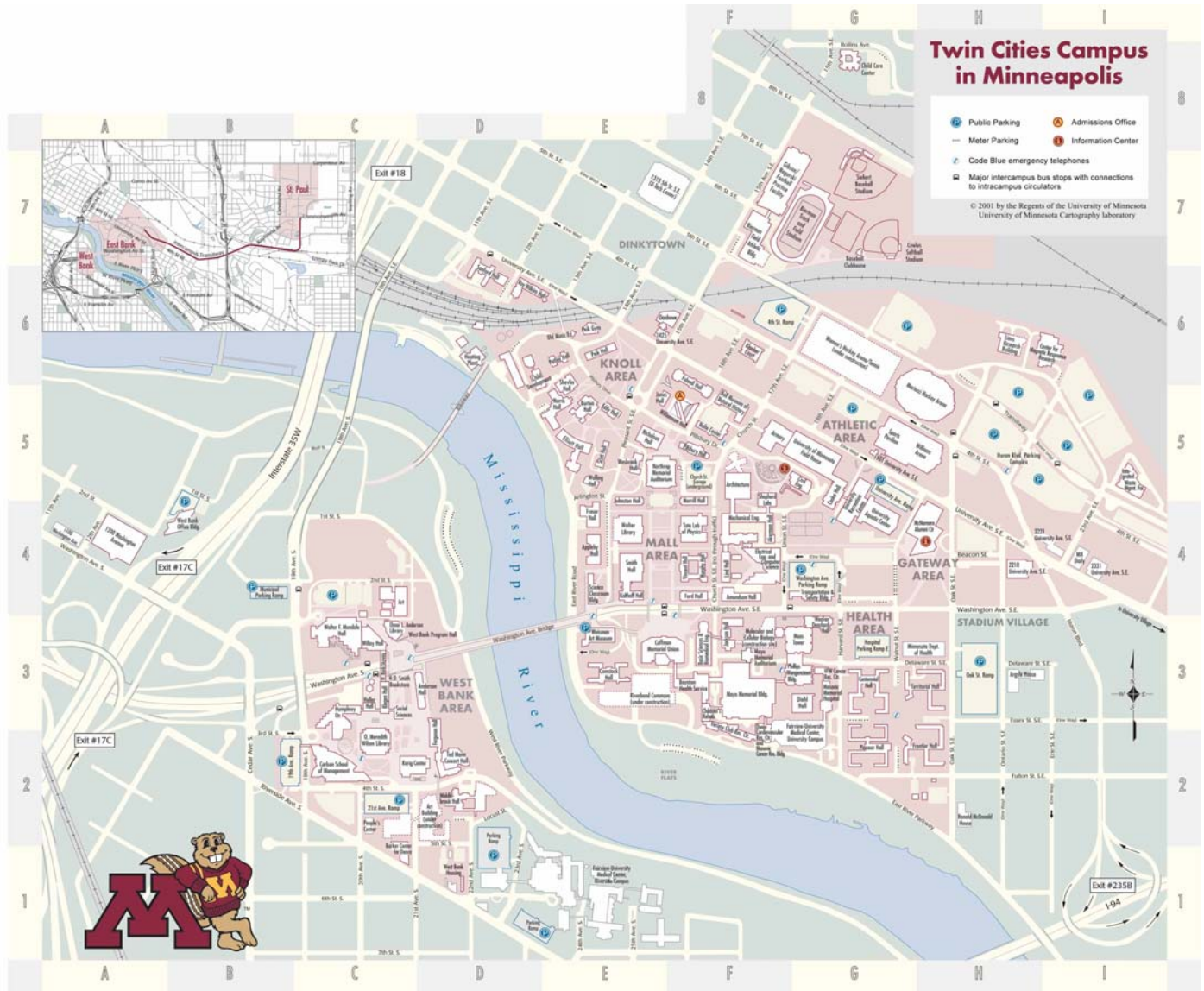
[Ammonia Leak- On Campus- St. Paul Campus](#)

## Pipelines

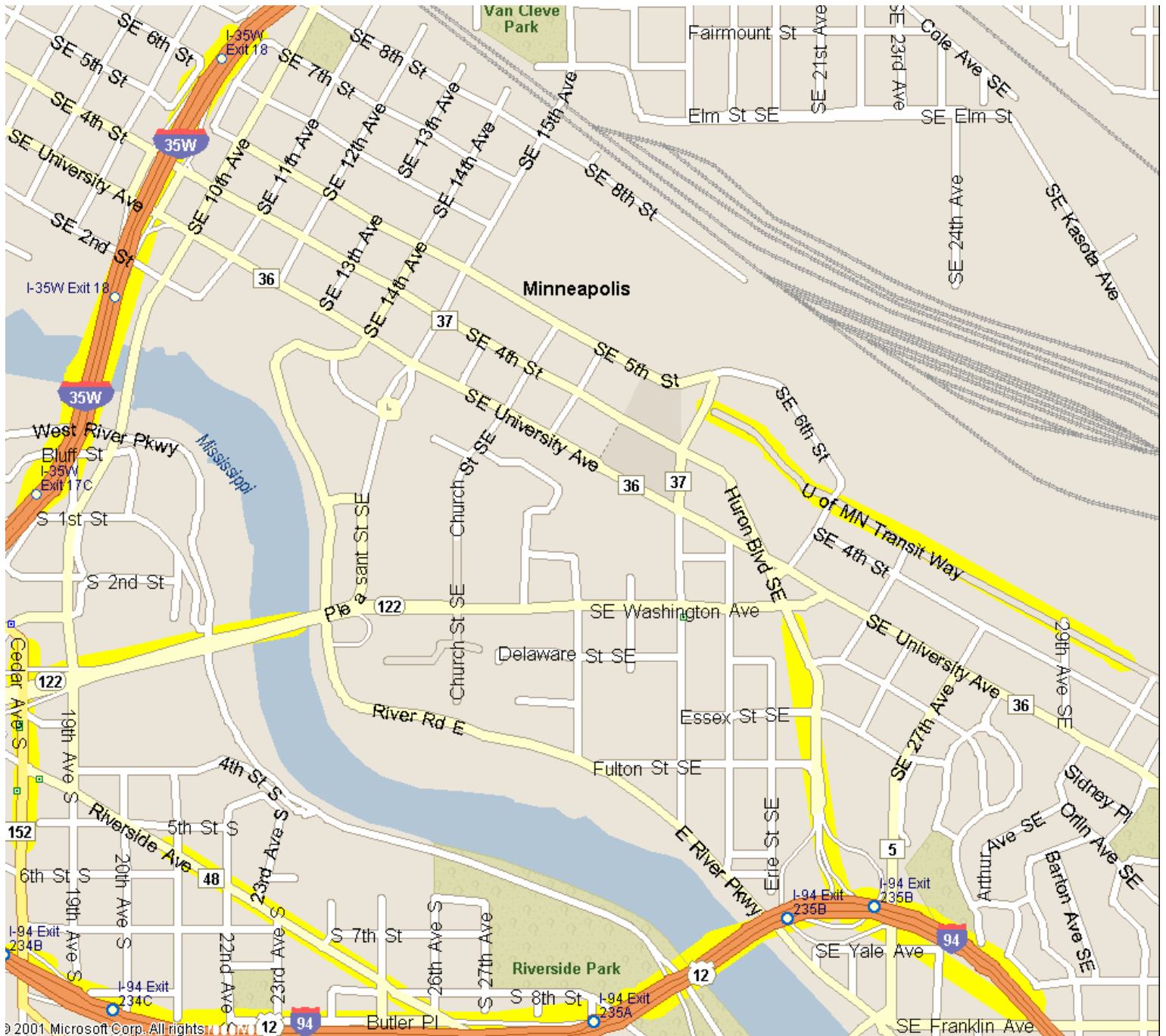
### General Information

- |                             |   |
|-----------------------------|---|
| 1. Northern Natural Gas Co. | 1-888-367-6671 EMERGENCY<br>612-463-7126, Farmington<br>320-235-2558, Willmar |
| 2. Williams Pipeline        | 1-800-331-4020<br>612-633-1555, day<br>1-918-588-3200, night                  |
| 3. Western Gas              | 612-529-9278  |

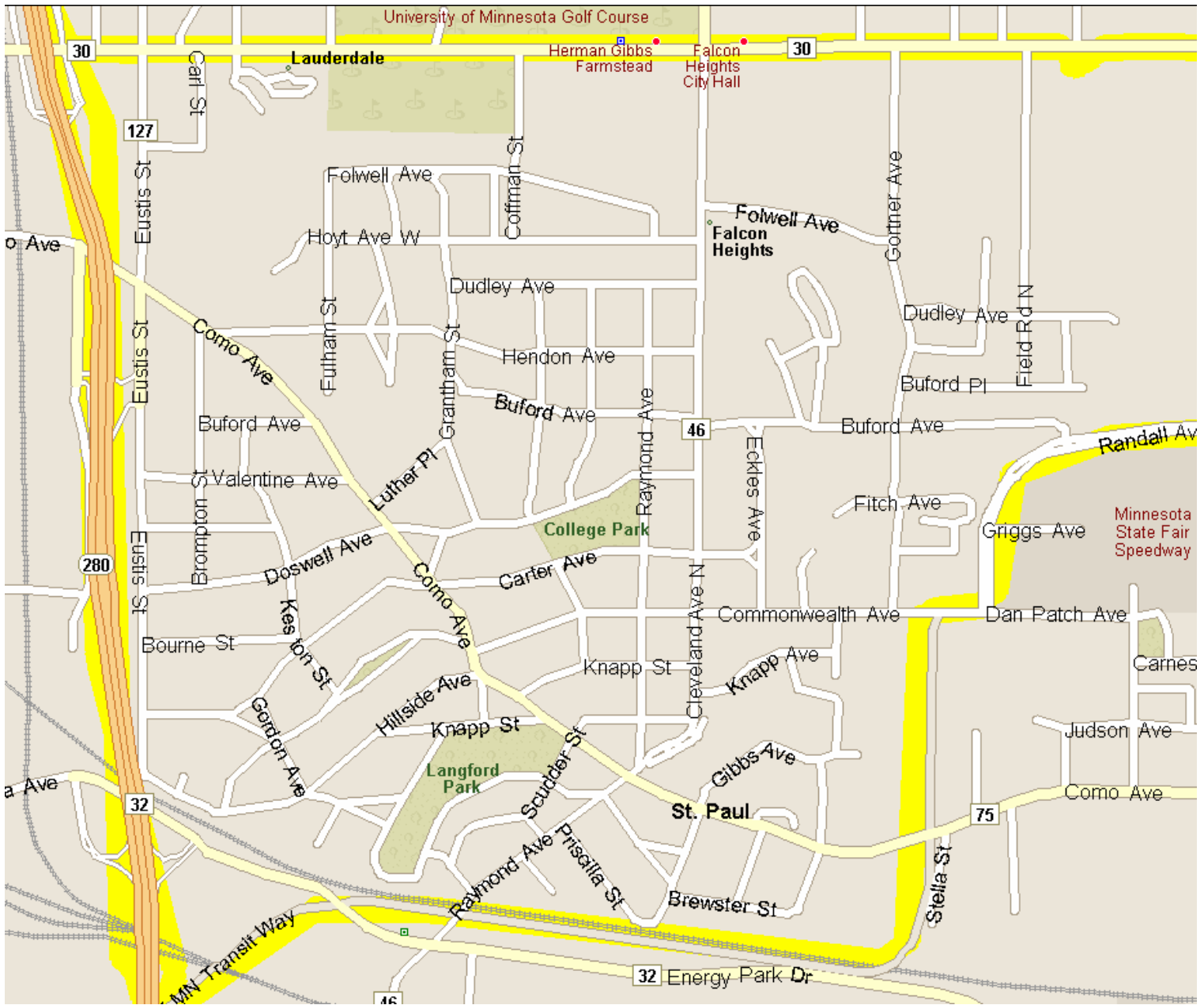
# University's Evacuation Corridor Minneapolis



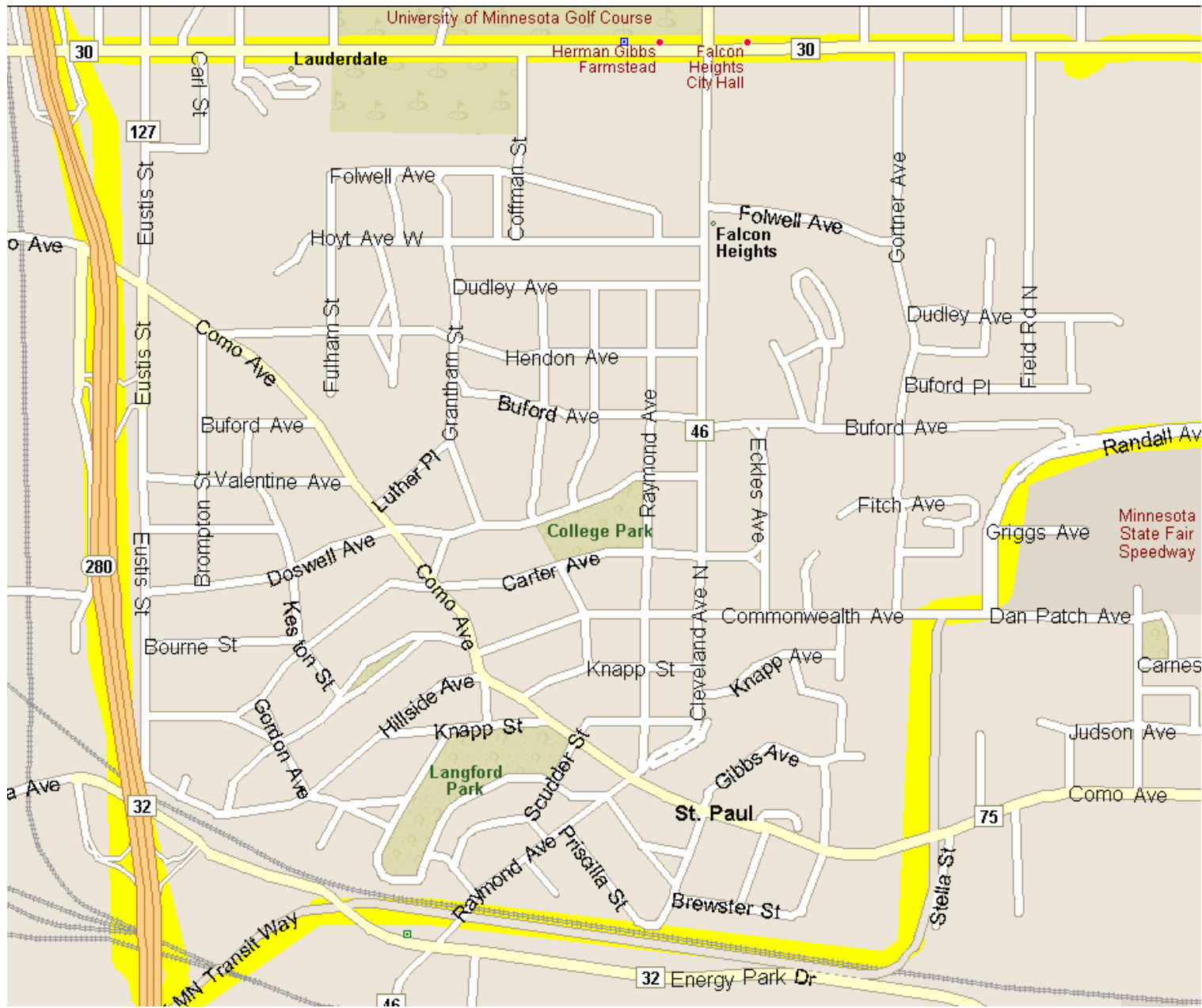
# Major Road Evacuation Routes Minneapolis



# University's Evacuation Corridor St. Paul

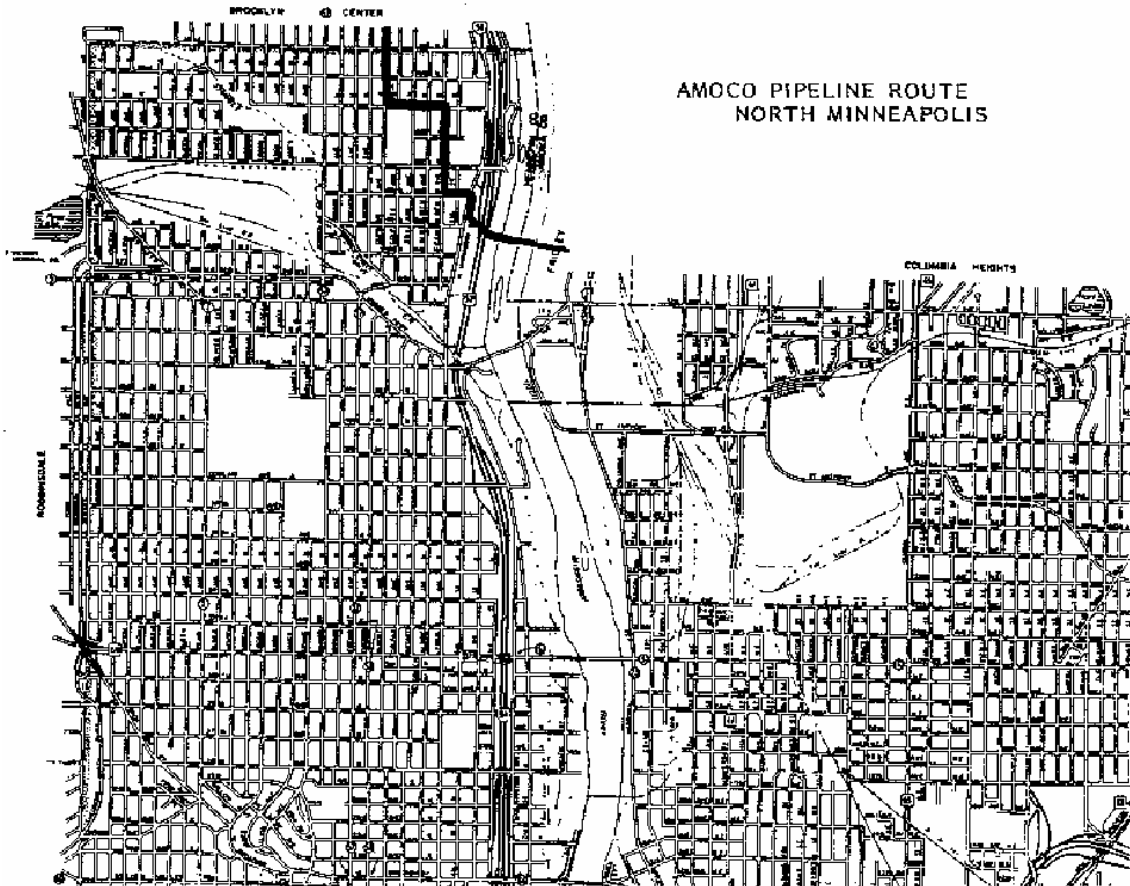


# Major Road Evacuation Routes St. Paul



# Pipe Line Route

Amoco Pipeline Routes in Minneapolis  
(full size map available in EOC and Director's Office)

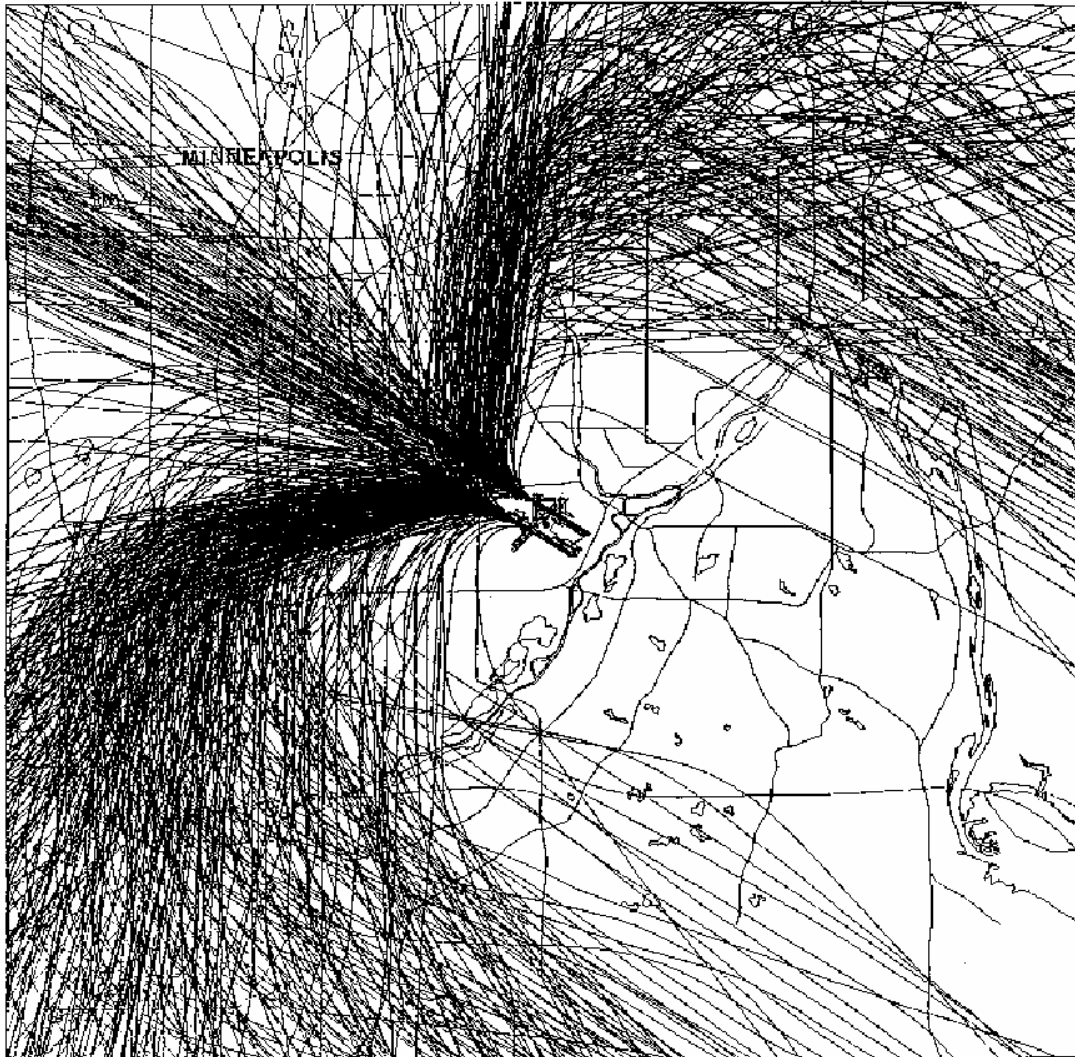




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## Air Routes- Departures Minneapolis St. Paul International

Minneapolis/St. Paul International Airport  
Carrier Jet Departure Paths, Runways 29L and 29R



# Air Routes- Departures Minneapolis St. Paul International

Minneapolis/St. Paul International Airport  
Carrier Jet Arrival Paths, Runways 11L and 11R

