APPENDIX B: EVACUATION/SHELTER-IN-PLACE SELECTION CRITERIA

This checklist is intended as reference only in determining the appropriateness of evacuation and/or sheltering-in-place during a hazardous materials emergency.

The information contained in this checklist is from the National Institute for Chemical Studies, *Protecting the Public in a Hazardous Material Emergency (Final Project Report)* (Charleston, WV: University of Charleston, 1988), pp. 10-12. This information is used with the permission of the National Institute for Chemical Studies.

1) Initial Assessment

Is this incident an actual or potential threat to public health and safety? If "Yes" or" Uncertain," continue to evaluate the incident using this checklist.

_____Yes_____No_____Uncertain

2) Required Information

The following is necessary to properly evaluate the appropriateness of evacuation and/or shelter-in-place actions:

Material(s) involved _____

Population threatened _____

Time factors involved _____

Current and forecast weather conditions _____

Ability to disseminate warnings and emergency public information _____Yes _____No

Capabilities of emergency response organizations to contain, stabilize and mitigate the emergency _____

3) Technical Assistance

3. Have technical experts (i.e., hazardous materials technicians/specialists, Environmental Health personnel, CHEMTREC, the manufacturer, facility representatives, etc.) been consulted and/or recommended actions?_____Yes _____No

4) Factors Important to the Decision

Evaluate factors related to the hazardous material(s) involved, it's (their) characteristics, quantity, condition, configuration and location:

Physical characteristics:

State:_____Solid_____Dust _____Liquid_____Gas

Density:_____High_____Low

Vapor pressure:_____High_____Low

Water soluble?_____Yes_____No

Explosive or flammable?_____Yes_____No

Characteristics unknown _____Yes ____No

Health characteristics:

Toxicity:_____High_____Low_____Irritant

Type of hazard:_____Inhalation_____Ingestion_____Dermal

Hazard is:_____Immediate (acute)_____Long-term (chronic)

Hazardous residue?_____Yes____No

Toxic combustion product?____Yes____No

Unknown hazard

Quantity: _____

Release factors:

Contained, but offers potential for release. _____Yes _____No

Uncontained:____Controlled____Uncontrolled

Type of release:_____Continuous_____Cloud_____Pool
Vapor_____Dust_____Elevated_____Ground-hugging

Vapor is: _____Heated _____Cool _____Caused by fire_____

Location:

Accessible?_____Yes_____No

Distance to public:_____ft/mi

Material relative to public:_____Above_____Below_____Same level

Vapor enhancements or obstructions: _____

Nearby hazards?_____Yes _____No

5) Evaluate factors related to the population at risk, and its capability and resources to implement the recommended protective action:

Population characteristics:

Type: _____Residential_____Institutional _____Commercial _____Industrial _____Transient

Density:_____High _____Low_____Mixed

People are:_____Indoors_____Outdoors _____Near structures

Population groups:_____Families_____Groups _____Individuals

Different languages spoken? ___Yes ____No

6) Evaluate factors related to time and their effect on the selected protective action:

Time of incident:

Day of week/time of day:_____/__

Season: _____Holiday_____Tourist

Rate of escalation or de-escalation of emergency:

Release: _____Over_____Occurring_____Predicted

Release is unknown or unlikely. _____Yes _____No

Rate of release:_____Rapid_____Slow

Likely duration of release:____min/hr

Rate of movement of hazardous material:

Rate is: _____Known_____Predicted_____Uncertain

Movement of material is:_____Enhanced _____Obstructed

Time until contact with populated area: _____min/hr

Estimated time needed for protective action:

Deploy emergency response personnel: _____min

Provide warning and emergency public information: _____min

7) Evacuation:

Likely public mobilization and travel time: _____min/hr

Mobilization and travel time for special populations (handicapped, institutional, commercial, industrial, recreational): _____min/hr

8) In-Place Sheltering:

Public response: _____min/hr

Response time for special populations:_____min/hr

Likely duration: _____min/hr

Time required for environmental monitoring, termination and building egress:_____min/hr

9) Evaluate the effect of present and forecast meteorological conditions on the control and movement of hazardous materials and feasibility of protective actions:

Impact on hazardous material(s) movement:

Wind direction:_____(from N, E, etc.)

Wind speed: _____mph

Wind gusty?_____Yes_____No

Rain?_____Yes_____No

Weather expected to change?____Yes____No

Impact on emergency response capability:

Roads:_____Open_____Blocked_____Traffic delayed

Travel:_____Safe_____Dangerous

Difference between outdoor and indoor temperatures:_____

10) Evaluate the capability to communicate with both the population at risk and emergency response personnel during and after the emergency:

Communication with the public:

Able to warn public, handicapped, institutions, transients, etc.?___Yes___No

Able to instruct public?_____Yes____No

Able to update public and terminate response?__Yes___No

Communication with emergency responders:

Able to notify and deploy emergency responders?_____Yes____No

Able to activate Emergency Alert System and/or contact media?_____Yes_____No

Total coverage of area?_____Yes_____No

Able to contact mutual aid?____Yes_____No

11) Evaluate the capabilities and resources of the response organizations to implement, control, monitor and terminate the protective action(s):

Mobilize available or required specialized personnel and resources: ____Yes____No

Able to mobilize existing or additional resources and personnel? _____Yes____No

Able to obtain specialized resources or control equipment?_____Yes____No

Control the hazardous materials:

Able to prevent, limit, contain, direct and/or neutralize the release?_____Yes____No

Control an evacuation:

Evacuation plan available?_____Yes_____No

Road capacity adequate?_____Yes_____No

Enough personnel and vehicles?_____Yes_____No

Able to move handicapped, institutionalized and/or transient people?____Yes____No

Are reception and care facilities available for evacuees? _____Yes _____No

Control in-place sheltering:

Structures available?_____Yes_____No

Is public knowledgeable? Will public accept instructions?_____Yes_____No

Able to initiate and terminate?_____Yes_____No

Are institutions, commercial buildings, and industries prepared?___Yes____No

12) Select and Implement the Most Effective Protective Action(s) Review the items marked on this checklist, noting the factors involved in this emergency(some factors are more important than others).

Determine if evacuation, sheltering-in-place or a combination of the two is appropriate.
_____Evacuation_____Shelter-in-Place _____Both

Implement evacuation and/or in-place sheltering actions
Terminate evacuation and/or in-place sheltering actions, when appropriate