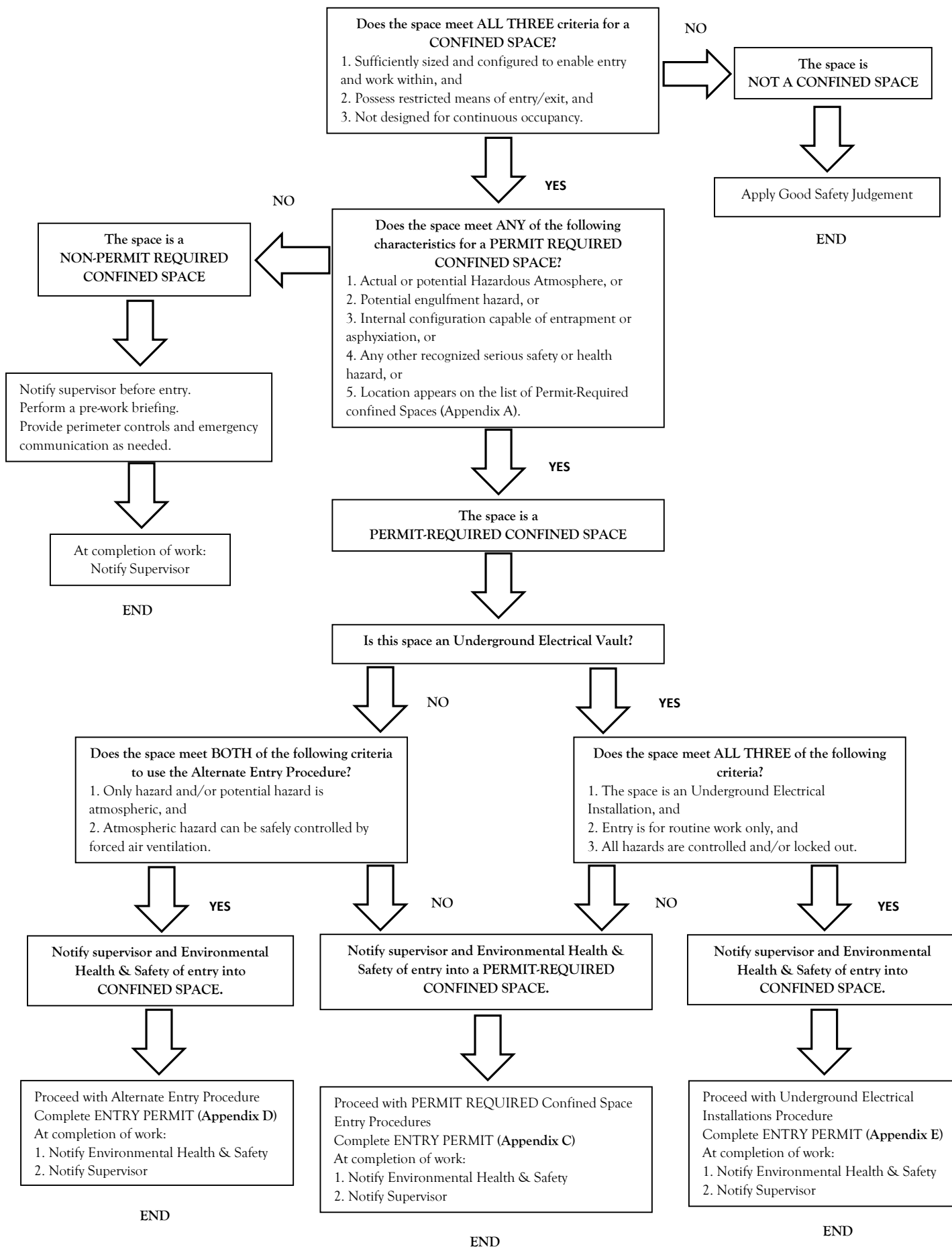


Appendix B

CONFINED SPACE DECISION FLOW CHART



Appendix C

PERMIT-REQUIRED CONFINED SPACE PROCEDURES and ENTRY PERMIT

To be used for entering tanks, boilers, combustion chambers and spaces with moving machinery. University of Arkansas employees are only authorized to enter Permit-Required Confined spaces after having received training in specialized entry procedures.

Location: _____ Job Supervisor: _____

Equipment to be worked on: _____

Work to be performed: _____

PREPARATION

1. Notify EH&S
2. Follow appropriate pre-entry Lock Out/Tag Out (LOTO) procedures
3. Check air monitor calibration status and battery condition
4. Arrange for ventilation equipment and power supply as needed
5. Arrange for attendant and communication, as required
6. Arrange for rescue equipment, as required
7. Protect Entry Perimeter

ON-SITE MONITORING

1. Test air at the top of the space, middle and bottom of the space, then record results.
2. If the combustibility reading at the bottom is greater than at the top of the space, notify your supervisor and the Office of Environmental Health and Safety (EH&S)
DO NOT ENTER THE SPACE!
3. If the air is not safe, ventilate, purge and retest. If the atmosphere does not clear
DO NOT ENTER THE SPACE!
4. Ventilate the space for a minimum of 5 minutes
5. Continuously monitor the space and record the results every hour. Retest the air after breaks and lunch

ATMOSPHERIC CHECK: INITIAL

INSTRUMENT:

Time: _____

Name: _____

Oxygen: _____ (19.5% to 23.5%)

Model Number: _____

Explosive: _____ (less than 10%)

Serial Number: _____

CO Toxic: _____ (less than 35 ppm)

Calibration Date: _____

H₂S Toxic: _____ (less than 10 ppm)

Signature: _____

PREPARATION

SOURCE ISOLATION (no entry required)	N/A	YES	NO
Lock Out/Tag Out Complete			
Pumps or Lines Disconnected			
Other			

Appendix C

PERMIT-REQUIRED CONFINED SPACE PROCEDURES and ENTRY PERMIT

VENTILATION

VENTILATION MODIFICATION	N/A	YES	NO
Mechanical			
Natural Ventilation			
Other			

ATMOSPHERIC CHECK: AFTER ISOLATION and VENTILATION

Time: _____

Oxygen: _____ (19.5% to 23.5%)

Explosive: _____ (less than 10%)

CO Toxic: _____ (less than 35 ppm)

H₂S Toxic: _____ (less than 10 ppm) Signature: _____

COMMUNICATION PROCEDURES: _____

RESCUE PROCEDURES: _____

If an emergency should occur, first summon help. Call 9-1-1 and request help from the Fayetteville Fire Department. Tell the operator that you have a "Confined Space Rescue" situation. If non-entry rescue equipment is in place, initiate rescue. If a person is down for no apparent reason, you must assume that toxic gases and/or oxygen deficient atmosphere conditions exist.

DO NOT ENTER THE SPACE!

TRAINING

PRINT NAME (attendant, entrant, back-up or rescue)	YES	NO	CURRENT

Appendix C

EQUIPMENT

TYPE	N/A	YES	NO
Direct reading Four Gas Monitor			
Safety harness and Lifeline for entry and stand-by personnel			
Hoisting equipment			
Powered communications			
SCBA's for entry and stand-by persons			
Protective clothing			
All electric equipment listed Class I, Group D and non-sparking tools			
Other			

CONTINUOUS ATMOSPHERIC MONITORING (record test every 20 minutes)

Time of Reading	(O ₂) Oxygen Range (19.5%-23.5%)	(LEL) Lower Explosion Limit Less than 10%	(CO) Carbon Monoxide Less than 35 ppm	(H ₂ S) Hydrogen Sulfide Less than 10 ppm	Tester's Signature

AUTHORIZATION

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any of the TABLE items are marked in the "NO" column. This permit is not valid unless all appropriate items are completed and signatures obtained.

TITLE (attendant, entrant, back-up or rescue)	PRINT NAME	SIGNATURE

Date/Time Entered _____ Date/Time Exited _____

Permit Expiration Date _____

Supervisor's Signature _____ Date _____
(REQUIRED)

Keep this log at the work site during the operation/Complete the form and return it to supervisor when finished

Appendix D

ALTERNATE ENTRY PROCEDURES AND PERMIT

To be used where the only hazard in the space is an actual, or potential, hazardous atmosphere that can be controlled with forced air ventilation. If these conditions change, a Confined Space Entry Permit is required.

University of Arkansas (Fayetteville) employees are only authorized to enter the confined space after having received training in specialized entry procedures.

Date: _____ Location: _____ Type of Space: _____

Reason for Entry: _____ Form Completed By: _____

Person(s) Entering:

PREPARATION

1. Notify Environmental Health & Safety
2. Protect entry perimeter
3. Check air monitor calibration status and battery condition
4. Arrange for ventilation equipment and power supply
5. Arrange for attendant and communication

ON-SITE MONITORING

1. Test air at the top of the space through the cover. *Record the results.*
2. If acceptable, open the cover. Test the air at the middle and bottom of the space. Record the results.
3. If the air is not safe, ventilate, purge and retest. If the atmosphere does not clear, **DO NOT ENTER THE SPACE!**
4. Ventilate the space for a minimum of 5 minutes.
5. Continuously monitor the space and record the results every hour. Retest the air after breaks and lunch.

MEASUREMENT

Instrument

Name: _____ Model: _____ Calibration Date: _____

Time of Reading	(O ₂) Oxygen Safe Range (19.5% - 23.5%)	(LEL) Lower Explosive Limit Safe Range (less than 10%)	(CO) Carbon Monoxide Safe Range (less than 35 ppm)	(H ₂ S) Hydrogen Sulfide Safe Range (less than 10 ppm)

If an emergency should occur, first summon help. Call 911 and request help from the Fayetteville Fire Department. Tell the operator that you have a "manhole rescue situation". If a person is down for no apparent reason, you must assume that toxic gases or oxygen deficient atmosphere conditions exist. **DO NOT ENTER THE SPACE!**

Date/Time Entered: _____ Date/Time Exited: _____

Supervisor's Signature: _____ Date: _____

Keep this log at the work site during the operation. Complete this form and return it to supervisor when finished.

Appendix E

UNDERGROUND ELECTRICAL INSTALLATIONS ENTRY PERMIT

To be used for routine entry into meter vaults, telecommunications vaults, electrical manholes where no electrical work (other than with a Lock-Out/Tag-Out procedure) will be done. If these conditions change, a confined space entry permit is required. Routine work includes inspection, housekeeping, taking readings or similar routine low hazard work. Notify supervisor or control center before entering and upon exiting space.

The University of Arkansas (Fayetteville campus) employees are only authorized to enter confined spaces after having received training in specialized entry procedures.

Date: _____ Location: _____ Type of Space: _____

Reason for Entry: _____ Form Completed By: _____

Person(s) Entering:

PREPARATION

1. Notify Environmental Health & Safety
2. Protect entry perimeter
3. Check air monitor calibration status and battery condition
4. Arrange for ventilation equipment and power supply
5. Arrange for attendant (FIRST AID and CPR trained) and communication

ON-SITE MONITORING

1. Test air at the top of the space through the cover. Record the results
2. If acceptable, open the cover. Test the air at the bottom of the space. Record the results.
3. If the air is not safe, ventilate, purge and retest. If the atmosphere does not clear, **DO NOT ENTER THE SPACE!**
4. Ventilate the space for a minimum of 5 minutes
5. Continuously monitor the space and record the results every hour. Retest the air after breaks and lunch

MEASUREMENT

Instrument

Name: _____ Model: _____ Calibration Date: _____

Time of Reading	(O ₂) Oxygen Safe Range (19.5% - 23.5%)	(LEL) Lower Explosive Limit Safe Range (less than 10%)	(CO) Carbon Monoxide Safe Range (less than 35 ppm)	(H ₂ S) Hydrogen Sulfide Safe Range (less than 10 ppm)

If an emergency should occur, first summon help. Call 911 and request help from the Fayetteville Fire Department. Tell the operator that you have a "manhole rescue situation". If a person is down for no apparent reason, you must assume that toxic gases or oxygen deficient atmosphere conditions exist. **DO NOT ENTER THE SPACE!**

Date/Time Entered: _____ Date/Time Exited: _____

Supervisor's Signature: _____ Date: _____

Keep this log at the work site during the operation. Complete this form and return it to supervisor when finished.