

SAFETY AND HEALTH STANDARD CONFINED SPACE ENTRY REQUIREMENTS

Effective Date: 06/10/10

Standard: 16.2

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Rev: 07

hazardous conditions, and in the use of monitoring equipment and procedures for atmospheric testing.

- 16.2.2.5 **Contaminant** - any dust, fume, mist, vapor, gas or other substance in liquid or solid form, the presence of which may be harmful to health and safety.
- 16.2.2.6 Authorized **entrant(s)** - personnel entering a confined space who have been properly trained and tested in confined space entry, and are deemed competent by the entry supervisor regarding the nature of hazards involved, precautions to be taken, the use of required protective and emergency equipment, and the emergency rescue procedures.
- 16.2.2.7 **Attendant (Standby person)** - a competent person trained and tested in the requirements of this standard and familiar with the rescue procedures. The Attendant is stationed outside the confined space at all times while personnel are within the space to monitor the authorized entrants and may perform no other duties that interfere with the primary duties.
- 16.2.3 **REQUIREMENTS**
- 16.2.3.1 Each plant shall conduct an annual Confined Space Inventory Audit to identify confined spaces. A register / inventory of all confined spaces is to be maintained and updated when new equipment or facilities are commissioned. Confined spaces shall be identified and signs erected at the entry points denoting that a permit is required prior to entry. Where signage is impractical i.e. adits, other means of highlighting the dangers need to be used.
- 16.2.3.2 A risk assessment is required prior to anyone entering a confined space. Entry to a confined space will only be allowed after a written approval, in the form of a permit, has been issued by an Entry Supervisor who is authorized to issue such permits. (See Exhibit 16.2.1)
- 16.2.3.3 Prior to entry into any space that meets the definition of a confined space but is not already identified as a confined space; a risk assessment must be completed to determine if it is to be treated as a confined space or to determine if other permits may be necessary.
- 16.2.3.4 Only trained, competent persons knowledgeable in the requirements of this standard shall implement the Confined Space Entry permit

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- o If the permit expires before the completion of work, the Entry Supervisor shall re-assess and issue another permit before work is allowed to continue.
- o Any changes in atmosphere or scope of work will require a new or updated Confined Space Entry permit. Entrant(s) shall be removed until the permit is updated or reissued.

16.2.3.9 All lines, vents, or chutes supplying gases, chemical solutions, material, or steam to equipment shall be isolated by valving or disconnecting, separating and blanking. All mechanical or electrical equipment shall be isolated. Both of the above items shall comply with the established Isolation (LOCKOUT / TAG-OUT PROCEDURE). (See KUC Safety and Health Standard 16.12)

16.2.3.10 When entrance covers are removed or the confined space is left unattended, the opening shall be guarded or barricaded with barrier tape and tag or other temporary barrier that will provide adequate warning of the opening. (See KUC Safety and Health Standard 16.3)

16.2.3.11 A trained person (Tester) shall make appropriate tests of the atmosphere in confined spaces. Testing will determine if there is a mixture or concentration of flammable and / or toxic air contaminants or if there might be an oxygen enriched or oxygen deficient atmosphere. Entry shall be allowed only after it has been determined that explosive or toxic limits are not exceeded, and that the oxygen concentration is within acceptable entry conditions.

- o If the confined space is found to have, or is suspected of having, an oxygen enriched / oxygen deficient atmosphere or if it exceeds flammable limits or toxic limits and a Confined Space Entry permit is not issued, the Entry Supervisor shall ensure the area is:
 - (1) Posted with an appropriate warning sign.
 - (2) Purged and ventilated; and
 - (3) Re-checked and a Confined Space Entry permit issued prior to entry under the conditions described in this standard.

Note: When the assessment has identified the need for ventilation, a documented ventilation procedure must be followed. (See KUCSHSOP001 Confined Space Ventilation SOP) Continuous forced air shall be used. Personnel may not enter the space until it has been determined that all limits are within acceptable entry conditions. Ventilation will continue until all personnel have left the space. The atmosphere within the space shall be periodically tested to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.

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Plant:

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- o Instruct attendant and each entrant of the nature of the hazards involved, precautions to be taken, and the means of emergency communication.
 - o Terminate the confined space entry when necessary.
 - o Ensure that when responsibilities for the confined space are transferred, the entry operations remain consistent with the permit terms and conditions.
 - o Reevaluate the conditions within a confined space at regular intervals directed by the hazards present and operations performed within the confined space and when entry operations are transferred between Entry Supervisors.
 - o Forward the Confined Space Permit to the facility (record center) document control office at the conclusion of the task.
- 16.2.3.13 The authorized **entrant(s)** to a confined space shall be properly trained and instructed by the Entry Supervisor regarding: 1) the nature of hazards involved, 2) precautions to be taken, 3) use of required protective and emergency equipment i.e. radio and safety harness, lifeline, and 4) emergency rescue procedures.
- o All authorized entrants shall review and sign the Confined Space Entry permit before entering the confined space and sign out when exiting the confined space.
 - o All required protective clothing and appropriate eye, face, head, hearing, respiratory, and foot protection shall be worn.
- 16.2.3.14 The **attendant** (standby person) will:
- o Be positioned outside the confined space and perform no other duties that interfere with the primary duties.
 - o Remain in contact (i.e. visual, audio or other means of approved communications) at all times while personnel are within the space.
 - o Ensure each authorized entrant has reviewed and signed the Confined Space Entry permit before entering and sign out when exiting.
 - o Be equipped with a means of communication (i.e. radio, cellular phone) to summon assistance in an emergency situation without leaving his / her post.
 - o Not enter the space in the event of an emergency or problem.
 - o Keep unauthorized personnel out of the space.
 - o Make sure ventilation equipment is working.
 - o Monitor the atmospheric testing equipment.
 - o Attend the lifeline when that equipment is in use.
 - o Note any problems encountered during the entry operations on the

KENNECOTT UTAH COPPER CONFINED SPACE ENTRY PERMIT (Standard 16.2)

PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETE OR A NEW PERMIT IS ISSUED. EXPIRED PERMIT MUST BE SENT TO THE FACILITY RECORD CENTER (DOCUMENT CONTROL).

This permit is void if conditions change within the confined space. Evacuate the confined space and do not re-enter until conditions are evaluated and a new permit issued.
 DATE AND TIME ISSUED _____ EXPIRATION _____

EQUIPMENT ID & LOCATION _____

PURPOSE OF ENTRY _____

SPECIAL REQUIREMENTS

MECHANICAL OR ELECTRICAL EQUIPMENT LOCKED OUT / DE-ENERGIZED	Y	N/A	LIFELINE / EMERGENCY RESCUE EQUIPMENT	Y	N/A
LINES CAPPED, BLANKED OR BROKEN	Y	N/A	HOT WORK PERMIT	Y	N/A
SAFE ACCESS	Y	N/A	LIGHTING	Y	N/A
MEANS OF COMMUNICATION	Y		PURGE / FLUSH, INERT AND VENTILATE	Y	N/A
BARRICADING	Y	N/A	SEPARATE VENTILATION PLAN	Y	N/A

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

GOGGLES / FACE SHIELD	Y	N/A	SUPPLIED AIR	Y	N/A
HALF-FACE RESPIRATOR (Does the cartridge match the chemical contaminant?)	Y	N/A	PROTECTIVE CLOTHING	Y	N/A
FULL-FACE RESPIRATOR (Does the cartridge match the chemical contaminant?)	Y	N/A	OTHER PROTECTIVE EQUIPMENT (LIST BELOW)	Y	N/A

REQUIRED TESTS FOR EVERY ENTRY	ACCEPTABLE ENTRY CONDITIONS (Results of atmospheric testing must be provided in the appropriate column)	DATE	DATE	DATE	DATE	DATE	DATE	DATE
% OF OXYGEN	19.5% - 23.5%							
% OF L.E.L. (L.F.L.)	10% OR LESS							
TESTS TO BE TAKEN AS APPLICABLE	ACCEPTABLE ENTRY CONDITIONS	Y	N/A					
CARBON MONOXIDE	30 PPM or less							
SULFUR DIOXIDE	2 PPM or less (>2 <100 PPM entry acceptable only with approved respiratory protection)							
HYDROGEN SULFIDE	5 PPM or less							
AMMONIA	25 PPM or less							
OTHER (SPECIFY)	REFER TO KUC OEL Standard 10.7							
THERMAL STRESS POTENTIAL	IF YES, SPECIFY ACTION REQUIRED							
INITIALS OF TESTER								

INSTRUMENT USED _____ Serial# _____ Calibration Due: _____ Bump Test Time: _____ Sensor Zeroed Y

CONTINUOUS MONITORING REQUIRED: Y N (If No, why not?) _____

PERIODIC TESTS REQUIRED: Y N . FREQUENCY _____

ADDITIONAL REQUIREMENTS

SIGNATURES REQUIRED:

TESTER: I have completed an evaluation of the atmospheric conditions applying to this permit and verify that acceptable entry conditions exist.

Print Name _____ Signature _____

PERMIT ISSUED BY (ENTRY SUPERVISOR (S) OF CREW (S)): I have completed or properly evaluated all portions of this permit and verify that acceptable entry conditions exist. All personnel have been instructed as to the conditions of the permit and are adequately trained to perform this job.

Print Name(s) _____ Signature(s) _____

EQUIPMENT TO BE TAKEN INTO THE CONFINED SPACE WITH SAFETY SPECIFICATIONS

Equipment	Safety Specifications

ENTRANT AND ATTENDANT TRAINING CHECKLIST

The Entry Supervisor shall instruct each entrant and attendant. Each entrant and attendant shall sign the permit after being instructed by the Entry Supervisor regarding the following:

TRACK completed for this task (Initials):

- ↑ Nature of Hazards involved.
- ↑ Risk Assessment
- ↑ Precautions to be taken. Each person shall be aware of the signs and symptoms of exposure and conditions under which the entrant should leave the confined space.
- ↑ Review completed entry permit.
- ↑ Means of emergency communication
- ↑ Emergency Rescue Plan Reviewed
 PLANT EMERGENCY PHONE # _____
 PLANT EMERGENCY RADIO CHANNEL _____
- ↑ Attendant to maintain visual or verbal communication with the entrants where required.
- ↑ In the event of an emergency, attendant will summon assistance, but will not enter the space.
- ↑ Attendant will keep unauthorized people out of the space.
- ↑ Attendant will attend lifeline when it is in use.
- ↑ Attendant shall stay at the entrance at all times unless relieved by another trained attendant.

AUTHORIZED ENTRANT (S) I have reviewed this Confined Space Entry Permit, and I understand the nature of the hazards involved and the precautions to be taken:

Print Name	Company	Initials	Time-In	Time-Out	Time-In	Time-Out

AUTHORIZED ATTENDANT (S): I have reviewed my responsibilities with the Entry Supervisor, and understand the nature of the hazards involved and the precautions to be taken:

Print Name	Company	Initials

Note: If additional space is required for authorized entrants or attendants, an additional roster sheet which includes time in and time out may be attached to the permit and must be returned to the plant Records Center (document control) with the completed permit.

COMPLETION PROCEDURE / SAFETY REVIEW

Project Completion Time / Date: _____

Were any problems encountered? If so please explain. Yes No

Was the work area cleaned, inspected and all tools & equipment removed. Yes No

Is the space / equipment ready to be placed into service? (i.e., closed, barricades and lock & tags removed) Yes No

Comments:

Permit Cancelled By:		Cancellation Date:		Time		AM
						PM
Reason Cancelled:						