Document Revision Change Table

Revision Number	Revision Description	Revised by	Revision Date
1	Update procedure to include cold cutting as preferred method for line cutting	G, Dawson	05/05/2022
	Reviewed	G. Dawson	01/18/2021
New	Original Issue of Document: BMEHS-002.044	G. Dawson	4/1/2017

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1.0 PURPOSE

The purpose of this procedure is to protect personnel, the environment, and property by eliminating line cutting errors that could result in the release of stored energy or hazardous materials.

2.0 DEFINITIONS

2.1 Marking tool**:** A device used to uniquely identify the cut location in the field (tag, tape, etc.)

2.2 Unique identifier: A clear, distinguishing mark that differentiates the marking tool from others in the adjacent area (example: serial numbers, etc.)

2.3 Cold Cutting: A procedure used to cut through a material without using heat or a flame, and without producing sparks. This makes the process the safest method for cutting structures in hazardous environments.

Types of Cold Cutting Machines

Depending on the drive mechanism cold cutting machines are classified into the following two groups:

- Pneumatic or Air-Driven cold cutting machines, and
- Hydraulic cold cutting machines.

3.0 SCOPE

This procedure applies to cuts made on process service lines and utility lines within the boundary of the plant. This procedure does not apply to new plant construction where no live lines are in the adjacent area or to making cuts on piping that has been disconnected and moved to an external controlled environment such as a demo yard.

4.0 PROCEDURE

4.1 Job Planning:

4.1.1 The owning department must use a blue cut tag to clearly identify locations where piping will be cut.

4.1.2 The blue cut tag in the field must include a unique identification number that can be used to track the cut location throughout the permitting and execution process.

NOTE: The presence of the blue cut tag does not indicate that the cut is ready to be made or that isolation is complete. This marking is only an indication of the physical location and identification of the cut point for planning purposes.

4.2 Permitting:

4.2.1 Every safe work permit issued for line cutting must include the unique identifier from the blue cut tag located in the field.

4.2.2 As part of the 4-Eyes Process, the permit issuer is responsible for physically ensuring that the unique identification number on the blue cut tag in the field matches the cut location identified on the safe work permit. *(This ensures permitting and cutting at the right location in the field.)*

4.2.3 The work crew (contractor/permit acceptor) must have an individual participate in the 4-Eyes Process. This includes verification of isolation and clearing. This individual will also hang a work crew physical marker in the field (e.g., orange tape) at the cut point indicating that the permit has been accepted and that the line has been approved to be cut. No work crew marking tool can be hung in any location that does not have a blue cut tag present.

Exception to hanging a blue cut tag at every cut point:

Making additional cuts within the boundaries of the first/last blue cut tag is acceptable as long as the piping to be cut is clearly identifiable by using the cut tape at cut locations on the pipe. The piping may then be cut into sections for removal. The method for identifying the line must be clearly indicated on the safe work permit.

Examples:

- *Hang blue cut tags along the length of the pipe to ensure that a blue cut tag is visible from every cut point, so that the pipe to be cut is clearly identified.*
- *Hang blue cut tags on the location of the first and last cuts and use the cut tape at areas to be cut on the piping between the tags, so that the pipe to be cut is clearly identified.*

4.3 Work Execution:

4.3.1 Line cutting is preferably done as cold cutting or with low sparking tools. Other methods may also be used based upon a documented justification.

For piping systems in flammable service which have no verifiable clearing bleeds in the immediate area, a cold cut can be made for the first cut or an 1/8" hole can be drilled into the pipe to verify that no flammable content is in the pipe before cutting the pipe. Appropriate location of the hole/cut must be considered during the risk assessment

If there is no leakage detected the cutting can be continued with another method. If cold cutting or drilling a hole is not reasonably possible, an exception may be written in the safe work permit and must include why the cold cut or drilled hole cannot be done and what alternate method has been used to verify clearing.

The work crew may not make a "cut" at any location unless the following criteria has been met:

- The blue cut tag is present near the cut location and the pipe has been marked according to the exception in Section 4.2
- The blue cut tag identification number matches the numbers(s) indicated on the safe work permit.
- A 4-Eyes review has been completed between the permit issuer and the work crew.
- The work crew marking tool (e.g., orange tape) is present at the cut location.
- Or piping that has been disconnected and moved to an external controlled environment (demo yard). In this case blue cut tags and orange tape wouldn't be required.

NOTE: If upon work execution it is determined that additional cuts need to be made that have not been identified on the safe work permit, the job must be stopped, scope revised, the safe work permit revised, and a new 4-Eyes review conducted.

5.0 ROLES AND RESPONSIBILITIES

5.1 Owning Department

5.1.1 The Owning Department is responsible for identifying where the cuts will be made and ensuring that they are physically marked with a blue cut tag in the field with A unique identification number or according to the exception requirements in section 4.2.

5.2 Permit Issuer:

5.2.1 The Permit Issuer is responsible for physically ensuring that the unique identification number(s) on the blue cut tag in the field matches the cut locations marked on the safe work permit before issuing the safe work permit.

5.2.2 The Permit Issuer is responsible for leading the 4-Eyes Process for permitting of the line cutting.

5.3 Permit Acceptor/Work Crew

5.3.1 The Permit Acceptor/Work Crew is/are responsible for ensuring that no physical line cuts are made where an owner marking tool and a work crew marking tool are not present.

6.0 Cut-Point/Tie-Point Tag



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