

## TEST ANSWERS: ENERGY HAZARDS

The *BSO Plus Safety Topic* is a review designed from the BSO Plus agenda. This safety topic is your way to stay current on the safety information over the 3 years between BSO Plus and BSR.

**1. Before executing work with hazardous energy, the permit receiver is responsible for:**

- a. Isolating, draining, depressurizing, and purging equipment of hazardous energy
- b. Establishing limits to create a safe work envelope
- c. Verifying with Operations that hazardous energy has been controlled or isolated
- d. None of the above

**RATIONALE:** Before the work can begin, a worker needs to verify that hazardous energy has been controlled. At least one qualified trade technician from each trade must apply a trade lock and information tag on the electrical isolation points. All workers have the right to apply a personal lock and confirm the effectiveness of the isolation points. All verification checks must be done in the presence of Operations.

**2. The Construction Regulation 213/91 s.190.(6) states that a danger tag shall: (Circle all that apply)**

- a. Be made of non-conducting material and shall be installed so as not to become energized
- b. Be placed and secured in a noticeable location
- c. Indicate why disconnected; name of person who disconnected; name of person's employer; and date of disconnect
- d. The employee ID number of the person who attached the tag

**RATIONALE:** A danger tag must be used with all lock outs. According to Construction Regulation 213/91 s.190(6), the tag must also be made of non-conducting material and shall be installed so as not to become energized, as well as be placed and secured in a noticeable location.

**3. Locally, the IEC Safety Partnership requires tags to include a contact information of the person who installed the tag.**

- a. True
- b. False

**RATIONALE:** No one is allowed to remove a lock and tag without the permission of the person who installed it. In the event that a worker has forgotten to remove their lock and tag upon completion of their work, having a contact name and number available allows for timely contact with the worker to confirm that they are safely out of the locked-out work area.

4. In addition to electrical energy, workers may be exposed to hazards from which of the following: (Circle all that apply)

a. Hydraulic energy

b. Chemical energy

c. Driving energy

d. Mechanical energy

**RATIONALE:** Lockout/Tagout procedures apply when we perform servicing or maintenance on certain pieces of equipment or machinery. Most of us recognize that electricity is the primary source of hazardous energy we face, but it's certainly not the only one. Hazardous energy is defined as any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, gravitational, or other energy that can harm personnel." (CSA Z460-13)

5. Primary energy is:

a. Energy within the system that is not being used

b. The supply of power that is used to perform work

c. Energy from an explosion, flame, objects with high or low temperatures or radiation from heat sources

d. Both (a) & (b)

**RATIONALE:** Primary energy is the supply of power that is used to perform work. Stored energy is energy within the system that is not being used, but when released can cause the related machinery or equipment to respond.