PART 9: CONFINED SPACES

Online survey

LOCKOUT AND ISOLATION

Isolation **9.18** (1) Except as provided in subsection (2), before a worker enters a confined space, adjacent piping which contains or has contained a harmful substance must be controlled by

(a) disconnecting, blanking or blinding, or equivalent engineered system, or

(b) if the adjacent piping contains a harmful substance that is not a gas or a vapour, nor a liquid of sufficient volatility to produce a hazardous concentration of an air contaminant in the discharge of the piping, a double block and bleed system.

(2) If adjacent piping contains or has contained a substance that is hazardous only because of its pressure, temperature or quantity, before a worker enters the space, the pressure must be controlled

(a) to meet the requirements of subsection (1), or

(b) provided there is no other pressure source or head pressure, by de-energizing and locking out the pressure source and depressurizing the line, or

(c) by other effective means.

(3) Repealed.

(4) Except when used in an acceptable double block and bleed system, the closing of one or more valves in a line is not an acceptable means of isolation.

(5) Isolation of a confined space from gases found in a gravity-flow municipal or domestic sanitary or storm sewer system may be accomplished by a p-trap, provided that

(a) the integrity of the trap is ensured immediately upon entry, and

(b) the atmosphere is continuously monitored and shown to contain clean respirable air.

Exemptions **9.18.1** **(1) In this section:**

"public water supply system" **includes valve and meter chambers and pressure reducing stations;**

"dam water passageway" **includes conduits, pipes, penstocks, power generating chambers, valves and related structures located within storage, diversion or other dams.**

(2) Section 9.18 (4) does not apply to water piping that is part of a public water supply system if the piping and associated equipment is designed, constructed, maintained and certified by a professional engineer to American Water Works Association standards or other standard acceptable to the Board.

(3) Section 9.18 (4) does not apply to a dam water passageway if the structures of the passageway, including a gate valve or other flow control device, are certified by a professional engineer as being safe for workers to enter to perform the intended work.

Explanatory Note

BC municipalities and cities may not currently be in compliance with specific requirements of the confined space regulations concerning isolation of water within piping contained in valve and metering stations and pressure reducing stations – confined spaces that are part of the public water system. When workers service equipment in water and meter chambers or pressure reducing stations, piping is isolated by closing one or more valves leaving the pipe under pressure on the upstream side of the valves. As well, there is commonly a bypass line to the main line within the chamber or vault such that there is a continuous flow of water through the structure. This is standard practice as continuity of flow is required to prevent ground water intrusion and to maintain pressure for fire protection.

"Public water supply system" is defined in proposed new section 9.18.1 (1) to include valve and meter stations, pressure reducing stations and similar structures.

Proposed new section 9.18.1 (2) allows single valve isolation of water-containing piping and associated equipment if the piping and associated equipment such as gate valves are designed, constructed and certified by a professional engineer according to American Water Works Association standards or other standard acceptable to the board.

Following public consultation, the proposed amendment covering hydroelectric dams has been revised to include all dams where workers are required to enter the structure to carry out work. Common to most water reservoir, hydroelectric or other dams is the practice of isolating water held back by the dam from the water passageways within the dam by means of a single valve, usually a gate-type valve. Hence, dams are currently in non-compliance with existing section 9.18 (4) since the closing of one or more valves is not an acceptable means of isolation. Workers routinely enter the water passageways to carry out inspections and maintenance of equipment therein such as turbines.

Proposed new section 9.18.1 (1) provides a definition for water passageways within a storage , diversion or other type of dam including penstocks, power generating chambers, valves (including a gate valve, turbine inlet valve, Krippen valve or other valves), and related structures such as the turbine, including the Pelton Wheel turbine.

Proposed new section 9.18.1 (3) permits single valve isolation if the structures of the dam's passageway, including the isolating valve, are certified by a professional engineer as being safe for workers to enter to perform the intended work.