Online survey

PART 23: OIL AND GAS

Definitions **23.1** In this Part:

"rig" includes

(a) **a**~~the~~ derrick and all **other** equipment that is directly involved with drilling or servicing a well, and

(b) **a snubbing unit;**

Explanatory Note:

The proposal is to expand the definition of a "rig" to include a snubbing unit. Snubbing equipment is either "rig assist" or "rigless" equipment. Rig assist snubbing equipment is used in conjunction with a drilling or servicing rig so all the provisions applicable to such rigs, such as for prohibition of smoking on or about a rig, safe access to the rig floor, guarding, fall protection, and control of ignition sources automatically apply during snubbing operations. A "rigless" subbing unit is one that can perform snubbing operations without the assistance of a drilling or service rig. By including all snubbing units within the definition of a rig, the applicable provisions will also apply to a "rigless" snubbing unit.

GENERAL REQUIREMENTS

Handling pipe **23.18** (1) Pipes or tubular goods must be restrained from uncontrolled movement.

(2) Deck pins used to restrain pipes must

(a) be at least 45 cm (18 in) high, and extend beyond the centre line of the pipe closest to the pins, or

(b) if the pipe is tiered, extend one pipe diameter above the pipe closest to the pins.

(3) Deck pins are not required if specialized dunnage is used.

(4) Pipes or tubular goods must be adequately secured before restraining devices are removed.

(5) While pipe is being loaded, unloaded or transferred, workers must not be on top of an unsecured load, between the load and the pipe racks or tubs, or in any other area made hazardous by potential pipe movement.

(6) When pipe is being transferred between pipe racks, catwalks, or trucks, temporary supports or skids must be constructed, placed and anchored so that they will support the load placed upon them.

(7) When transferring drill collars, tubular goods or other similar materials which are not provided with shoulders, pick up subs or other appropriate pipe handling equipment must be used.

(8) A nubbin must not be used to pick up drill collars, tubular goods or similar materials unless the nubbin is equipped with a wire rope safety line and swivel for attachment to the elevator bails.

(9) A trailer used as a pipe rack during drilling, servicing or pipe salvaging must have a guard, along the full length of both sides of the trailer, designed and constructed to ensure that when a pipe is hoisted into the derrick, the lower end of the pipe will not roll off the trailer.

(10) ~~Pipe loading, unloading and transferring operations must be undertaken only from the pipe ends.~~

(11) Pipes must be loaded on or unloaded from a truck one layer at a time.

Explanatory Note:

Section 23.18(10) is a prescriptive requirement that has been in place for many decades. It mandates that pipe loading, unloading and transferring operations must be undertaken only from the pipe ends. The current industry practice for these operations is to use mobile equipment with a “pipe clamp” that grabs the pipe approximately at the midpoint. This provides a safe way to load, unload and transfer pipe, and has the advantage of not requiring crew to be working at heights on transport trucks and on pipe racks to attach and remove rigging at the pipe ends. Typically the injuries arising from such rigging activity would be from falling or from getting hands, arms or legs crushed by moving pipe sections when working with rigging near the ends of the pipes.

The OHSR should not preclude the use of safer means for handling pipe. It is proposed to delete section 23.18(10) as it is redundant. Deletion of this requirement will permit the industry to use their established safer methods for handling pipe without being in violation of the OHSR. Currently officers are not enforcing the provisions specified in section 23.18(10) because the newer methods used are safer.

GENERAL REQUIREMENTS

Driver training **23.22** A vehicle driver in the oil and gas industry must**, before operating a vehicle with a gross vehicle weight rating greater than 5 500 kg (12 000 lbs.), be certified in the applicable Enform Canada driver training course or other appropriate training.**

~~(a) before operating a vehicle with a gross vehicle weight (GVW) rating greater than 5 500 kg (12,000 lbs.) be certified in the Petroleum Industry Training Service (PITS), General Oilfield Driver Improvement Course (GODI) or other appropriate training, and~~

~~(b) before operating a vehicle with a GVW rating greater than 15 000 kg (33,000 lbs.) be certified in the Petroleum Industry Training Service, Heavy Hauler Course or other appropriate training.~~

Explanatory Note:

An update is proposed for section 23.22. In 2005, the Petroleum Industry Training Service (PITS) became part of Enform Canada, and section 23.22 should be updated to reflect this change.

Enform Canada is the training, certification and health and safety services arm of the upstream petroleum industry. It was created in 2005 by the merger of PITS and the Canadian Petroleum Safety Council.

A certification for driver training from PITS or Enform is valid for three years. A person who was certified under the PITS program will be considered to have "other appropriate training" until the expiration of their PITS certification, but this will likely be a non-issue as by the time this proposed change to the OHSR comes into force, it will be at least three years since the transformation from PITS to Enform.

Also, it is proposed to reword the provision to reflect that the driver certifications available through Enform will cover more than just the "General Oilfield Driver Improvement Course" (or "GODI" Course) and the "Heavy Hauler Course" (which is now known as the "Oil Field Haulers Course".) Enform is developing certification programs for other specialized vehicles, such a "Bulk Haulers Course" that is applicable to drivers of tanker trucks.

GEOPHYSICAL OPERATIONS

Breakout tongs	**23.30**	~~Pipe wrenches used as breakout tongs must be equipped with a suitable guard on the pipe wrench handle.~~

Explanatory Note:

It is proposed to delete section 23.30.

Breakout tongs are devices used to tighten and loosen connections between the sections of pipe or drill stem used by the drilling rig. Many years ago, the drill rigs used in geophysical operations did not have breakout tongs and pipe wrenches were used to tighten and loosen the connections of the pipe or drill stem. Drills in use today come equipped with breakout tongs and pipe wrenches are no longer used for this task. Section 23.30 is obsolete, and should be deleted.

DRILLING AND SERVICING RIGS

~~**Auxiliary escape**~~ **Emergency escape system**

23.39 ~~(1) Each drilling and servicing derrick must have a specially rigged and securely anchored line as an auxiliary means of escape which~~

~~(a) provides a ready means of escape from the principal working platform above the drill floor,~~
~~(b) consists of a wire rope not less than 13 mm (½ in) diameter,~~
~~(c) has a length twice the vertical distance between the ground and the point at which it is attached to the derrick,~~
~~(d) is effectively anchored and able to withstand a load of 13.3 kN (3,000 lbs), and~~
~~(e) is kept free of obstructions.~~

~~(2) Equipment must not be placed, and vehicles must not pass, under the last 15 m (50 ft) of the escape line.~~

~~(3) A safety buggy of a design acceptable to the Board must be installed and operated on the escape line.~~

~~(4) The safety buggy must be~~

~~(a) kept at the derrickhand's principal working platform,~~
~~(b) provided with an effective brake and means to prevent the trolley from coming off the escape line, and~~
~~(c) inspected by a qualified person at least once a week.~~

~~(5) The escape line must be tensioned so that a worker seated in the safety buggy will touch the ground at a safe distance from the derrick, not less than 6 m (20 ft) from the ground level anchor.~~

~~[Amended by B.C. Reg. 312/2003.]~~

(1) There must be an emergency means of escape from the principal working platform located in the derrick above the floor of a rig.

(2) The emergency means of escape required under subsection (1) must

(a) be available for use at the principal working platform level whenever a person is working at that platform level during drilling or well servicing operations,
(b) be able to simultaneously and safely transport all the people on the principal working platform, either individually or as a group, to a safe landing spot at ground level located a distance away from the well bore that is equal to at least 80% of the height of the platform above ground level,
(c) have a means to protect the worker or workers from falling out of or off of the emergency means of escape, and
(d) have a means, either automatic or manually controlled by the user, to control the rate of descent to a speed that minimizes the risk of injury to the user when the user nears ground level.

(3) The placement of equipment and the movement of vehicles in the area under the emergency means of escape required under subsection (1) must be controlled so as to ensure the emergency means of escape can be safely used.

(4) The emergency means of escape required under subsection (1) must be inspected and tested in accordance with the manufacturer's instructions

(a) each time the derrick is erected and before a person works at the principal working platform level during drilling or well servicing operations, and

(b) at least once each month if a person is working at the principal working platform level and the rig is being used for drilling or well servicing operations.

(5) If practicable, each person assigned to work on a principal working platform above the rig floor during drilling or well servicing operations must

(a) as part of their training and within five work shifts of starting such an assignment, do a practice escape using the emergency means of escape required under subsection (1), and

(b) repeat the practice escape required under paragraph (a) at least once each month if they are regularly assigned to such work.

Explanatory Note:

Section 23.39 is a prescriptive requirement that has been in place for many decades for oil and gas well drilling and service rigs. Equipment meeting this requirement is commonly referred to as a "Geronimo". The Geronimo-style equipment is considered by some industry stakeholders to be primitive and dangerous to use in an emergency. Some consider it too dangerous for workers to use to do practice runs as part of training for use of the equipment. Other industry stakeholders feel the Geronimo-style equipment is reasonably safe for use, including for practice runs as part of training, provided the user is given the opportunity to learn to use it properly.

Workers have been injured using a Geronimo, both during training and when using the device to escape from the derrick in an emergency. Sometimes in an emergency, if the worker has been burned or gassed before the worker boards the device, the worker may be unable to operate the braking mechanism to control the speed of descent, which can result in additional serious injury from hitting the ground. The industry is working to develop alternative escape systems. Some of the alternative systems are of different designs from the Geronimo-style. Some provide for a controlled descent without the occupant needing to activate a brake system.

While the newer systems are considered by some people in the industry to be safer than the Geronimo-style escape system contemplated by section 23.39, use of one of the new systems under the current provisions of section 23.39 requires a variance. It is proposed to update section 23.39 to make it a performance-based requirement. The intent of the proposed change is to continue to allow use of the Geronimo-style escape devices, but to provide flexibility to accommodate other types of systems that provide a safe and effective means of emergency escape from the principal working platform on the derrick.

The escape systems available to replace the Geronimo are relatively new and have seen limited service in the field. Some industry stakeholders want more time for the new systems to be proven serviceable and for cost to be more clearly established before they consider switching from the Geronimo to an alternative system for escape from the derrick. In the meantime, the proper use of the Geronimo-style device, including the user being secured with a personal fall arresting system to the Geronimo device during use, is considered acceptable safe practice. The OHSR should continue to permit the use of the Geronimo-style devices.

Regarding proposed section 23.39(2)(b), on some large drilling rigs there are occasions when two or more people are required to work on the principle working platform. In these cases, the emergency

means of escape must be able to allow all the people on the platform to immediately leave the platform in an emergency. This can be achieved by providing a Geronimo–style escape system for each person or by having an escape system that allows the people to leave and travel to safety as a group.

It is also proposed to change the marginal note for this section to “emergency escape system”.

DRILLING AND SERVICING RIGS

Riding hoisting equipment

23.51 (1) A worker must not ride the travelling block hook, or elevators, nor slide down any pipe, kelly hose, cable or rope line.

(2) In an emergency an injured worker may be lowered from the derrick by means of the travelling block or a tugger if the rotary table is stopped, and a qualified worker operates the controls.

(3) If the hoisting equipment to be used under subsection (2) is not rated by the hoist manufacturer for hoisting personnel, training with the equipment must be done using a load that approximates the weight and configuration of a person.

Explanatory Note:

Section 23.51 permits, in an emergency, for an injured worker to be lowered from the derrick of a drilling or service rig using the travelling block or a "tugger" hoist. The industry does regular training for this type of evacuation of an injured worker, and refers to the process as rig rescue. There is no requirement to limit training with a worker suspended on the hoist to only hoists that are rated for lifting personnel.

It is proposed to establish a requirement that only a hoist rated or certified by the hoist manufacturer for lifting personnel may be used for training with a worker in suspension, and that training with a hoist not rated for lifting personnel must be done using a dummy test weight approximating the weight and configuration of a worker.

DRILL STEM TESTING, SWABBING, CEMENTING, WELL SERVICING AND STIMULATION

Snubbing operations	**23.64.1**	**A snubbing operation must be carried out in accordance with the requirements of *Industry Recommended Practice (IRP) Volume 15-2007 Snubbing Operations* published by Enform Canada.**

Explanatory Note:

Snubbing is an upstream petroleum industry operation using specialized equipment and qualified people to control well pressure and the movement of jointed tubulars (pipe) and tools in or out of a well bore using snubbing equipment.

During the operating life of an oil or gas well, it is occasionally necessary to "rework" the well to enhance, maintain or continue the production of hydrocarbons. This process frequently requires the removal and cleaning, or replacement, of tubing (piping) or other apparatus in the well bore. Where practicable, the well will be "temporarily killed" by filling the well bore with high density fluids, doing the necessary reworking, and then removing the high density fluids and bringing the well back into production. However, sometimes the conditions in the well and reservoir do not allow the temporary killing of the well as the high density fluids may damage the hydrocarbon bearing formation and render the well no longer productive. Snubbing is a process that allows the reworking of a "live well", and may even involve the continued production of hydrocarbon from the well during the reworking process. Snubbing is being done more frequently in BC's oil and gas production sector. Snubbing is a specialized operation due to the potential for the release of hydrocarbons, which means a potential for a fire or explosion, or exposure to an atmosphere which is oxygen deficient or contains toxic gases (such as hydrogen sulfide) making the atmosphere immediately dangerous to life and health.

The oil and gas industry in western Canada has developed and published an "industry recommended practice" (IRP) for safe snubbing operations, *Industry Recommended Practice (IRP) Volume 15-2007 Snubbing Operations*. WorkSafeBC was a participant and contributor to the development of this IRP.