

Pre-Start Health and Safety Reviews in Factories Consultation 2020

Context

The Ministry of Labour, Training and Skills Development (MLTSD) is reviewing the current pre-start health and safety review requirements, also known as pre-start review (PSR) requirements, to ensure that they continue to reflect the realities of today's workplaces. While maintaining existing worker health and safety protections, the review will consider whether:

- i. there are opportunities to streamline the existing requirements or reduce burden on business,
- ii. the equipment and processes that trigger a PSR are appropriate, and
- iii. there are ways to make the requirements clearer and easier to understand.

If there are additional issues or concerns about current PSR requirements in Regulation 851 that are not addressed in this paper, please take this opportunity to share those thoughts as well.

Background

Section 7 of the Industrial Establishments regulation ([Regulation 851](#)) under the [Occupational Health and Safety Act](#) (OHSA) requires that a PSR be carried out on certain machinery, protective elements, structures and processes before they are put into service for the first time or if modifications are needed (see subsection 7(2)). The section applies only to factories (as defined in the OHSA) and not other types of workplaces that are also defined as industrial establishments (offices, arenas, etc.).

The purpose of a PSR is to protect worker health and safety proactively by removing or controlling hazards before the machinery or process is started up and to identify non-compliance with specific regulatory requirements identified in the table to section 7 (see below).

PSRs are required for highly hazardous situations or equipment, such as:

- a travelling crane,
- a machine that depends on safety light curtains or screens to prevent amputation or crushing of a limb,
- industrial warehouse racks,
- processes that involve molten metal, or
- processes that may expose workers to airborne chemicals above the legally allowed exposure limits or could catch fire or explode.

Most PSRs must be carried out by a professional engineer, who must prepare a written report (see subsections 7(3) and (4)) that covers:

- Any measures identified by the reviewer that are needed in order to comply with relevant sections of Regulation 851 (i.e. those listed in the table to section 7);
- Details of the structural adequacy of racks and stacking structures, lifting devices, cranes or automobile hoists; and
- Safety measures for testing the equipment, if testing will be needed before start-up or use.

Once a PSR report is completed, it must be kept readily available in the workplace and a copy provided to the Joint Health and Safety Committee or Health and Safety Representative (see subsection 7(14)).

An employer, lessee or owner has some discretion about following the measures identified by the reviewer, as long as all requirements in the relevant sections of Regulation 851 are met. The employer must inform the Committee or Representative of what measures have been taken to comply with relevant regulatory sections if they choose not to follow the measures detailed in the report (see clause 7(3)(b)).

In general, there are exemptions from undertaking a PSR if certain machinery, protective elements, or structures have been manufactured and installed to accepted safety standards. Examples include machine guards, racks and stacking structures, spray booths, and automobile hoists (see subsections 7(5) through 7(9) for details). When an exemption applies, any supporting documents (for example, a record from a manufacturer stating that equipment meets current applicable standards) must be kept readily available in the workplace (see subsection 7(10)).

Current Application

Table to Section 7

Item	Applicable provisions of this Regulation	Circumstances
1.	Subsections 22 (1), (2) and (4)	Flammable liquids are located or dispensed in a building, room or area.
2.	Sections 24, 25, 26, 28, 31 and 32	Any of the following are used as protective elements in connection with an apparatus: <ol style="list-style-type: none"> 1. Safeguarding devices that signal the apparatus to stop, including but not limited to safety light curtains and screens, area scanning safeguarding systems, radio frequency systems and capacitance safeguarding systems, safety mat systems, two-hand control systems, two-hand tripping systems and single or multiple beam systems. 2. Barrier guards that use interlocking mechanical or electrical safeguarding devices.

Item	Applicable provisions of this Regulation	Circumstances
3.	Clause 45 (b)	Material, articles or things are placed or stored on a structure that is a rack or stacking structure.
4.	Section 63	A process involves a risk of ignition or explosion that creates a condition of imminent hazard to a person's health or safety.
5.	Section 65	The use of a dust collector involves a risk of ignition or explosion that creates a condition of imminent hazard to a person's health or safety.
6.	Sections 87.3, 87.4, 87.5 and 88, subsections 90 (1), (2) and (3), and sections 91, 92, 94, 95, 96, 99, 101 and 102	A factory produces aluminum or steel or is a foundry that melts material or handles molten material.
7.	Sections 51 and 53	The construction, addition, installation or modification relates to a lifting device, travelling crane or automobile hoist.
8.	Sections 127 and 128	A process uses or produces a substance that may result in the exposure of a worker in excess of any exposure limit set out in Regulation 833 of the Revised Regulations of Ontario, 1990 (Control of Exposure to Biological or Chemical Agents), Ontario Regulation 278/05 (Designated Substance — Asbestos on Construction Projects and in Buildings and Repair Operations) or Ontario Regulation 490/09 (Designated Substances) all made under the Act.

Questions

I. Section 7 Requirements

The requirements for PSRs are set out in [section 7](#) of Regulation 851. This section sets out questions about those requirements, including where they apply, who has to conduct the review, the resulting report and current exemptions.

A. Application of Pre-Start Reviews

Currently, subsection 7(2) requires PSRs at a factory (other than a logging operation):

- (a) because a new apparatus, structure or protective element is to be constructed, added or installed or a new process is to be used; or
- (b) because an existing apparatus, structure, protective element or process is to be modified and one of the following steps must be taken to obtain compliance with the applicable provision:
 - 1. New or modified engineering controls are used.
 - 2. Other new or modified measures are used.
 - 3. A combination of new, existing or modified engineering controls and other new or modified measures is used.

Questions

1. Are there other types of workplaces that should be subject to PSRs? Are there types of factories at which PSRs should not be required? Are there any other changes to subsection 7(2) that you would recommend?

B. Exemptions

Subsections 7(5) through 7(9) set out current exemptions to the PSR requirements. Further questions about these exemptions are included in the section of this paper about the circumstances that trigger a pre-start health and safety review. Subsection 7(10) requires that documents establishing the exemption be kept readily available at the workplace.

Questions

1. The ministry is considering amending the existing Table in Section 7 to add references to the exemptions in the table. Would this change make the requirements for PSRs easier to understand?

C. Conducting Pre-Start Reviews and Writing the Report

Subsections 7(11) and 7(12) set out who can conduct a PSR. In most cases, a pre-start review must be conducted by a professional engineer. PSRs involving processes using or producing substances that could result in worker exposure in excess of the occupational exposure limits (i.e., item 8 of the table) can be done by either a professional engineer or a person with special, expert or professional knowledge or qualifications.

Subsection 7(4) sets out the minimum requirements for the contents of a PSR report and 7(13) sets out how the person who wrote the report must be identified and requires that professional engineers affix their seal to the report. Subsection 7(14) requires that the PSR report be kept readily available at the workplace and provided to the Joint Health and Safety Committee or Health and Safety Representative, if any.

Questions

1. Do you agree with the current requirement that a professional engineer carry out the PSRs related to items 1 to 7, or are there circumstances in which someone other than a professional engineer should be able to conduct the PSR? If so, what would those circumstances be? And what should the qualifications of the person be?
2. Regulation 941 under the [Professional Engineers Act](#) requires seals to be affixed to any plans, drawings, specifications, reports and other documents prepared as part of a service to the public that falls within the practice of a professional engineer. Would you support revising clause 7(13)(b) to remove references to sealing the report? Are there any other changes to the requirements for written reports that you would recommend?

II. Costs and Overlap

1. In your experience, approximately how much does it cost to complete a PSR? What changes would you recommend to reduce the administrative or operational costs associated with the PSR requirements, or otherwise improve the process?
2. Do you have one or more professional engineers on staff who are licensed in Ontario and who can carry out a PSR in your workplace, or do you contract with a third-party company to do it?
3. The [Building Code](#) (O. Reg. 332/12, made under the *Building Code Act, 1992*) establishes minimum requirements related to the construction, demolition or renovation of buildings, including fire protection, explosion venting, design of hazardous areas, ventilation, and racking. If your workplace has carried out a PSR related to items 1, 3, 4, 5, or 8, was there any duplication between the PSR report and the documentation that you needed to provide during the building permit approval process?

III. Resources and Educational Materials

A [free guideline](#) is currently available on the Ministry of Labour, Training and Skill Development's website that explains the requirements and lists current applicable standards that, if met, would exempt machines or devices from having a PSR.

1. Are you aware of this guide and have you used it?
2. Are there any changes to the existing guideline that you would recommend?
3. Are there any additional non-regulatory resources that the ministry should have that would help assist workplaces in complying with PSR requirements?

IV. Circumstances Requiring a PSR

The table to section 7 includes items describing the circumstances where a PSR is required. This section sets out questions related to those existing items. In some cases, we suggest and invite feedback on suggestions as to how these hazards can be addressed using alternate approaches.

A. Risks of Fire and Explosion (Items 1, 4 and 5)

Presently, where flammable liquids are located or dispensed in a building, room or area of a factory, a PSR is required to ensure that the requirements in [subsections 22\(1\), \(2\) and \(4\)](#) are met (item 1 in the table to section 7).

A PSR is also required if there is a risk of ignition and explosion that creates a condition of imminent hazard to a person's health or safety relating to:

- A process, to ensure [section 63](#) is met (item 4); and
- The use of a dust collector, to ensure that [section 65](#) is met (item 5).

Questions

1. The Ontario [Fire Code](#) (O. Reg. 213/07, made under the *Fire Protection and Prevention Act, 1997*) establishes standards for fire prevention and fire safety in buildings that are in use. Part IV applies to flammable and combustible liquids and Part V to hazardous materials, processes and operations (e.g. spray applications using flammable and combustible liquids; combustible dust producing processes). Do you support the ministry reviewing the fire and explosion prevention provisions in Regulation 851 with current Fire Code requirements and other Ontario legislation to see if there is opportunity to potentially streamline and/or harmonize requirements?
2. If the room or area in which flammable liquids are stored meets the requirements of the Fire and Building Codes, does there also need to be a PSR requirement for storage of flammable liquids? Why or why not?
3. A PSR related to item 4 is not required if the process is conducted inside a spray booth that is manufactured and installed in accordance with current applicable standards (see subsection 7(8)). The only current applicable standard listed in the PSR Guideline is NFPA 33 – Standard for Spray Application Using Flammable or Combustible Materials. Would you support an exemption to item 4 that directly references this standard? Why or why not?

B. Safeguarding Devices and Barrier Guards (Item 2)

The safeguarding of machinery is essential to protecting workers from exposure to hazards that can result in serious injuries, such as amputations of limbs, or death. [Sections 24, 25, 26, 28, 31, and 32](#) of Regulation 851 regulate machine guarding in all industrial establishments.

If any of the following are used as protective elements in connection with an apparatus in a factory, a PSR is required:

1. Safeguarding devices that signal the apparatus to stop, including but not limited to safety light curtains and screens, area scanning safeguarding systems, radio frequency systems and capacitance safeguarding systems, safety mat systems, two-hand control systems, two-hand tripping systems and single or multiple beam systems.
2. Barrier guards that use interlocking mechanical or electrical safeguarding devices.

Safeguarding machinery by the means listed above involves complex specifications and design elements, such as guards that signal machinery to stop. An engineer's expertise is essential in reviewing the design of these types of safeguarding devices or barriers, in order to ensure that workers are protected. The requirement to have a pre-start review of these protective elements is particularly important as there are no other requirements in Regulation 851 or in Federal legislation for safeguarding devices and barrier guards to be certified to conform with applicable standards before being supplied for use at a workplace

If there is documentation available from the manufacturer or equipment distributor that shows that the apparatus or protective elements meet current applicable standards, a PSR does not have to be carried out. The PSR guideline lists current applicable standards acceptable to MLTSD, and the owner, lessee or employer would need to keep the documentation readily available in the workplace.

Questions

1. Are the types of safeguarding devices and barrier guards requiring a PSR the correct ones? Are there any similar devices or guards that should be added? Are there any that should be removed?
2. Subsections 7(5) and (6) set out the conditions where the protective elements described above would not require a PSR and the PSR Guideline lists current applicable standards that can be used to establish an exemption. How could the ministry help businesses, especially small businesses, ask manufacturers or equipment distributors for this sort of documentation when purchasing machines and equipment?

C. Molten and Melted Material (Item 6)

Processes that involve molten material are highly dangerous, and, if not correctly designed, could result in catastrophic reactions between water and the molten material or workers being splashed with hot metal.

A PSR is required at a factory that produces aluminum or steel or at a foundry that melts material or handles molten material to ensure that [sections 87.3, 87.4, 87.5 and 88, subsections 90 \(1\), \(2\) and \(3\), and sections 91, 92, 94, 95, 96, 99, 101 and 102](#) are met. There are no exemptions to carrying out PSRs.

Questions

1. Are the types of workplaces and activities requiring a PSR the right ones? Are there any workplaces or activities that should be added or removed?

D. Lifting Devices, Travelling Cranes and Automobile Hoists (Item 7)

Supporting structures for lifting devices, cranes and hoists can fail due to many factors. For example, exceeding load capacity causes stress to the structure. Workers can be seriously injured or killed by being crushed by falling materials or tipping equipment.

To ensure [sections 51 and 53](#) are met, a PSR is needed when the construction, addition, installation or modification relates to a lifting device, travelling crane or automobile hoist.

Questions

1. The ministry would like to clarify the circumstances that would trigger a PSR for item 7 by proposing the following: “a travelling crane, overhead crane, monorail crane, gantry crane, jib crane, or other lifting device suspended from or supported by a structure, rail, framework, or post, or an automobile hoist”. Does this proposal list the types of lifting devices that should require a PSR? Should any be added or removed?
2. Clause 7(9)(a) currently exempts lifting devices and travelling cranes from the PSR requirements “if it is in or on a supporting structure originally designed for it and its capacity does not exceed the capacity provided for in that original design”. Would you support amending the exemption to clarify that it applies if the supporting structure was originally designed for the capacity of the lifting device or travelling crane that is being installed or used? Why or why not?
3. For the automobile hoist exemption in clause 7(9)(b), the only applicable standard listed in the PSR Guideline is the ANSI/ALI ALCTV Standard for Automotive Lifts – Safety Requirements for Construction, Testing, and Validation. Would you support amending the exemption to directly reference the standard and/or certifying organization?

E. Racks and Stacking Structures (Item 3)

Industrial pallet racks are common in distribution warehouses and the storage areas of retail stores. They can be used to store large quantities of materials and, in addition, are often loaded and unloaded with powered mobile equipment, which increases the potential for rack damage. If the racks are not properly installed, maintained and repaired, workers could be injured or killed by falling material or collapsing shelves.

Currently, a PSR is required if material, articles or things are placed or stored on a structure that is a rack or stacking structure in a factory to ensure the requirements in [clause 45\(b\)](#) are met. That provision requires that these items are stored in such a way that they do not tip, collapse or fall, and so that they can be removed or withdrawn without endangering a worker. The PSR Guideline explains that for the purpose of section 7, a rack or stacking structure would include industrial pallet racks, moveable shelf racks, stacker racks, drive-in and drive-through racks, and cantilever racks.

There is an exemption from the requirement to carry out a PSR (in subsection 7(7)), where the rack or stacking structure is designed and tested for use in accordance with current applicable standards. The PSR Guideline lists one applicable standard.

An alternate approach to the current PSR requirement would be to have specific requirements in Regulation 851 that address rack safety. These requirements could include general requirements that racking or shelving structures be capable of supporting stored items, be secured against tipping or falling, and be maintained in good condition, for example.

Certain industrial racking systems (stacker racks, pallet racks, drive-through and drive-in racks, etc.) could be subject to more stringent requirements relating to their design, installation, inspection, and repair. For example, the regulation could specifically require that they be installed or repaired in accordance with instructions from the manufacturer or a professional engineer.

Including explicit requirements for racks in Regulation 851 would maintain worker health and safety but would be more transparent for employers and workers and could address the safety of racks in all industrial establishments, not just factories.

Questions

1. Please indicate whether you think Regulation 851 should include specific requirements for rack safety, as suggested above, and the reasons why or why not? If so, what topics or issues should the requirements address?
2. Are there certain types of racks or stacking structures (such as industrial pallet racks, moveable shelf racks, stacker racks, drive-through and drive-in racks, or cantilever racks) that should be subject to more stringent requirements and, if so, what should those requirements be?

3. If Regulation 851 were amended to include specific requirements for racks, should section 7 be amended so that the PSR requirements only applied to racks or stacking structures that were installed prior to the day the new requirements come into effect?

F. Ventilation Systems and Occupational Exposures

Regulation 851 currently requires a PSR when a process uses or produces a substance that may result in the exposure of a worker in excess of any exposure limit set out in [Regulation 833](#) (Control of Exposure to Biological or Chemical Agents), [Ontario Regulation 278/05](#) (Designated Substance — Asbestos on Construction Projects and in Buildings and Repair Operations) or [Ontario Regulation 490/09](#) (Designated Substances), all made under the Act. In such cases, [sections 127 and 128](#) must be complied with. There are no exemptions associated with item 8.

Questions

1. Should the circumstances described above be amended so that a PSR is only required when a ventilation system is first installed, and not for subsequent modifications? After installation, other requirements, such as those in Regulation 833, would continue to apply.
2. Should these processes be subject to a PSR or is the control of airborne exposures to hazardous substances better addressed through specific regulatory provisions specifying control measures, including for ventilation. Why or why not?

Comments Due Date

March 27, 2020

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Notice to Consultation Participants

Submissions and comments provided to the Ministry of Labour, Training and Skills Development are part of a public consultation process to solicit views on regulatory requirements for pre-start reviews set out in Regulation 851 (Industrial Establishments). This process may involve the ministry disclosing submissions, comments, or summaries of them, to other parties during and after the public consultation period. However, personal information in the ministry's possession, such as names and contact details, will not be disclosed except as required by law.

If you, as an individual, want to make a submission or provide comments and you do not want personal information to be made public, you should not include it or other information by which you could be identified in the main body of the submission. As well, you should not include the names of other individuals or any other information from which other individuals could be identified. By submitting your comments, you are consenting to the use of your information, which may include personal information, by the Ministry of Labour, Training and Skills Development.

Personal information collected during this consultation is under the authority of the *Occupational Health and Safety Act* and is in compliance with subsection 38 (2) of the [*Freedom of Information and Protection of Privacy Act*](#).

If you have any questions regarding freedom of information or privacy matters, you may contact the ministry's Freedom of Information and Privacy Office at 416-326-7786.