SAFETY GUIDELINES ON MACHINERY

BACKGROUND

The current Directive is the Machinery Directive (98/37/EC). There is however a new Machinery Directive (2006/42/EC) which will take effect in law in December 2009. The revised Directive does not introduce any radical changes from the current Machinery Directive (98/37/EC) and its main aim is to consolidate the provisions relating to machinery in terms of free circulation and safety.

CURRENT MACHINERY DIRECTIVE 98/37/EC

The current Directive 98/37/EC sets out the essential health and safety requirements for machinery. The Directive promotes the free movement of machinery within the Single Market and guarantees a high level of protection to EU workers and citizens. It is a **"New Approach"** Directive and promotes harmonisation through a combination of mandatory health and safety requirements and voluntary harmonised standards. The Directive therefore applies only to products that are intended to be placed on the market or put into service. Member States have the responsibility for implementing the Directive, manufacturers have to notify the intention to place certain products on the market and market surveillance authorities are required to communicate with manufacturers when they suspect that their products do not comply with the Directive.

APPLICATION

Machinery is defined in the Directive as:

- ***an assembly of linked parts or components, at least one of which moves, with the appropriate actuators, control and power circuits, etc., joined together for a specific application, in particular for the processing, treatment, moving or packaging of a material***
- ***an assembly of machines that, in order to achieve the same end, are arranged and controlled so that they function as an integral whole;***
- ***interchangeable equipment modifying the function of a machine that is supplied for the purpose of being assembled with a machine (or a series of different machines or with a tractor) by the operators themselves insofar as this equipment is not a spare part or tool.***

LATVIAN LAWS

The safety of machinery is controlled in Latvia by the following legislation:

- **Consumer Rights Protection Law, 1999**
- **Law on the Safety of Goods and Services, 2004**

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LATVIAN REGULATIONS

The safety of machinery is further controlled in Latvia by the following secondary legislation:

- **Cabinet Regulation No. 186 "Regulations regarding the Safety of Machinery", adopted 30 May 2000.**
- **Amendments of the Cabinet Regulation No. 186 "Regulations regarding the Safety of Machinery", - 30 July 2002.**
- **Amendments of the Cabinet Regulation No. 186 "Regulations regarding the Safety of Machinery", -12 August 2003**.

This legislation transposes the requirements of the relevant European Directives into Latvian law. Producers, importers, distributors and suppliers must ensure that they comply fully with the provisions of this national legislation.

SAFETY REQUIREMENTS

Machinery or safety components covered by the Directive "may be placed on the market and put into service only if they do not endanger the health or safety of persons and, where appropriate, domestic animals or property, when properly installed and maintained and used for their intended purpose".
The Machinery Directive contains 48 'Essential Requirements', known as 'EHSR'. The EHSR lay down the necessary elements for protecting consumers, workers, property and the environment. Compliance with the ESHR is mandatory. The first requirement of the Machinery Directive is to reduce risk so that there is no need to identify hazards. Manufacturers are expected to identify danger zones around their machine, operators and anyone who might be exposed to hazards on a machine.

THE PRINCIPLES OF SAFETY INTEGRATION

The Principles of Safety Integration apply to all machinery covered by the Directive. The manufacturer is responsible for assessing the risks and hazards associated with the machine during the design stage and relating them to the corresponding requirements in this Directive. There is a European standard to guide manufacturers of machinery in the process of risk assessment (EN 1050).

The manufacturer must apply the following principles:

- Eliminate or reduce risks as far as possible.
- Take necessary protection measures to address risks that cannot be eliminated.
- Inform users of residual risks, indicate where training is required and specify any need for personal protective equipment.

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CE MARKING FOR MACHINERY

The European Machinery Directive 98/37/EC requires that almost all machinery products bear the CE Marking and be accompanied by the proper documentation (i.e., EU-Type Test Certificate). Non-compliant products may be removed from the market. Customs officials could also stop equipment at any European Union border if the CE Marking is not affixed, and if the proper declaration and documentation are not available.

DEMONSTRATING COMPLIANCE

The manufacturer of a product is responsible for verifying whether a particular product falls within the scope of the Directive.
So you must:

1. establish a technical construction file
2. certify your machinery's compliance with the technical requirements
3. attach an instruction manual to each machine

HARMONISED STANDARDS

The easiest route for manufacturers to demonstrate compliance with the Directive is to ensure their products comply with **Harmonised European Standards**.
Listed in EC Official Journal as 'harmonised' under the Machinery Directive are:

- Type A standards – basic safety (e.g. EN 12100-1 and EN 1050)
- Type B standards – generic safety, sub-divided into:
  - Type B1 standards – particular safety aspects (e.g. EN 954 – 1, EN 62061)
  - Type B2 standards – particular safeguards
- Type C standards – machine safety standards (developed using types A and B)

NOTIFIED BODIES

Notified Bodies are appointed by the Member States after having demonstrated that they have the expertise to provide an expert opinion on whether a product satisfies the essential health and safety requirements. However, although a Notified Body has a range of responsibilities under the Directive, the manufacturer (or his authorised representative in the EU) always remains ultimately responsible for the compliance of the product. They deliver an EC type examination statement valid for all member states.

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EXAMPLES OF CONSUMER PRODUCTS COVERED BY THE MACHINERY DIRECTIVE

Mini motorbikes

Mini motorbikes

Electrical Circular Saw

Electric planner

Chain saw

Rotary grass cutter

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MACHINERY DIRECTIVE (2006/42/EC)

Date of application of new Directive

The Directive was published on 9th June 2006 and came into force on 29th June 2006. Member States were allowed until 29th June 2008 to adopt and publish the national laws and regulations transposing the provisions of the new Directive into national law and the provisions of the new Directive will become applicable on **29th December 2009**. Until that date, the provisions of the current Machinery Directive (98/37/EC) will continue to apply, however market surveillance authorities and producers etc clearly need to be mindful of the new provisions before that date.

Transitional arrangements

Manufacturers can and should anticipate the application of Directive 2006/42/EC from a practical and technical point of view. It must be stressed however that, from a formal, legal point of view, the 2006 Directive cannot be applied before 29th December 2009. The more significant changes are highlighted in the **Comparison Table** below in this guidance, but for a full list of all the changes, a Correlation Table to assist with comparison between the two Directives is included as an Appendix to the new Directive.

Summary of the Main changes in the new Directive

The scope of the new Machinery Directive has been extended to include construction site hoists, cartridge-operated fixings and other impact machinery.

The borderline between the earlier Machinery Directive and the Low Voltage Directive has been clarified;
The distinction will no longer be made on the basis of the "main risk";
Instead, the new Machinery Directive lists 6 categories of electrical machinery that will be subject to the Low Voltage Directive;
Note: for other electrical machinery, the safety objectives of the Low Voltage Directive apply for the electrical risks, but the obligations concerning conformity assessment and the placing on the market are governed by the Machinery Directive).

The borderline with the Lifts Directive has also been clarified.

- The new text modifies the scope of the Lifts Directive so that lifts with a travel speed no greater than 0.15 metres per second (m/s) will be excluded from the Lifts Directive and will therefore be subject to the Machinery Directive.

The range of safety components subject to the Machinery Directive has been clarified;

- An indicative list of safety components is given in a new Annex to the Directive.
- This list may be updated by the 'Machinery Committee' to cover new products.

PRACTICAL ADVICE FOR PRODUCERS

1. ESTABLISHING A TECHNICAL CONSTRUCTION FILE (Machinery Directive, Annex V)

This comprises:

- an overall drawing of the machinery together with drawings of the control circuits
- full detailed drawings, accompanied by any calculations, notes, test results, etc., required to check the conformity of the machinery with the essential health and safety requirements
- a list of the essential requirements of this Directive, applicable standards and other technical specifications which were used when the machinery was designed
- a description of the methods adopted to eliminate hazards presented by the machinery
- any technical report or certificate obtained from a competent body or laboratory
- any technical report giving the results of tests carried out, either by yourself or any competent body or laboratory, if you are declaring conformity with any harmonized standard.

It also contains a copy of the instructions for each machine, and the means to identify the machine. It must be available for inspection by national authorities. Details of internal quality systems and other measures to ensure that machinery and components can be manufactured in conformity should also be documented. You should also carry out any necessary tests to ensure that by its design and construction the machine can be erected and put into service safely.

2. CERTIFYING YOUR MACHINERY'S COMPLIANCE WITH THE TECHNICAL REQUIREMENTS APPLYING TO IT. (MD, Chapter II)

The certification must include:

- furnishing the buyer with a signed EC declaration of conformity
- affixing the CE mark of conformity in a visible place

IF the machinery or its safety components **are not listed** in Annex IV, you can **self-certify** your equipment by signing the EC declaration of conformity.
IF the machinery or its safety components **are listed** in Annex IV of the Machinery Directive, you will need independent help from a **notified body** to certify your machinery.

- If harmonized standards exist, and you have followed them, you will need to submit the technical construction file to the notified body. They will acknowledge receipt, and then provide verification that the applicable standards have been correctly applied. The notified body will then draw up a certificate of adequacy for the file, and you can complete the declaration of conformity. Alternatively, you can submit a model of the machinery for an EC type examination.

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- If you have not completely followed harmonized standards, or if no such standards exist, then you should submit a model of your machinery to the notified body for an EC type examination. They will certify that the model satisfies the provisions of the applicable Directive(s). Only then can you complete the declaration of conformity and affix the CE mark.

3. ATTACH AN INSTRUCTION MANUAL TO EACH MACHINE

This manual must contain:

- conditions of use of the machine
- handling, installation, regulating and maintenance instructions
- specific risks that users should be aware of.

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PRACTICAL ADVICE FOR ENTREPRENEURS

- When purchasing stock for supply, beware of new or unusual branded products. Make a visual check of the product and pay particular attention to the quality of production and any obvious potential hazards like sharp edges or corners, trapping hazards etc.

- Establish which Directive/s cover/s the product (MD, GPSR, LVD, SPVD, PED, etc) and check the markings and warnings on the product to establish whether or not they comply fully and can be used safely by consumers.

- Be careful not to be deceived by the production of false certificates of conformity and other documentation. Always insist upon seeing the original certificate or if this is not possible, an authenticated copy. If in any doubt about the authenticity of a document, this should be thoroughly checked out with the organisation that it appears to have been originated by.

- Do not import products unless you are certain that both the product and any associated markings, instructions and warnings are fully compliant and that the necessary certificate of conformity and technical file are both available and complete.

- Check the PTAC website regularly to check for changes in law, information on dangerous products or new guidance.

- Check the weekly RAPEX notification reports for any examples of unsafe machinery products that have been discovered in another member state.

- Watch out for any accidents reported in the press or on television involving consumer products covered by the Machinery Directive.

- Check whether you have any such unsafe products on offer for supply to consumers in Latvia (sale or hire) or if you have previously supplied such products.

- Investigate thoroughly all complaints of faulty or unsafe products that you receive from your customers

- If you discover that you have sold products that appear to be either non-compliant or dangerous, take advice from the CRPC and if necessary instigate as appropriate a withdrawal of products from the supply chain, a product recall and issue warnings to the public.

- **You have duty to inform CRPC if you have supplied non-compliant or dangerous goods.**

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EXAMPLES OF UNSAFE MACHINERY PRODUCTS REPORTED THROUGH RAPEX

Circular saw

- Internal wires can come in contact with sharp edges
- Permanent deformation of the cutting edge
- During test the appliance caught fire
- Required markings missing
- Risk of electric shock, fire and injuries

THE PRODUCT DOES NOT COMPLY WITH THE MACHINERY DIRECTIVE

Angle grinder

- Insufficient insulation resistance and electric strength

THE PRODUCT DOES NOT COMPLY WITH THE MACHINERY DIRECTIVE

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Electric mitre saw bench

- Width of the top guard is too wide
- Deflection of the top guard is too big when pulled laterally with a force of 5N
- Maximum distance between the riving knife and the saw blade is too big
- Poor mechanical strength of the combined user/emergency switch
- Product poses a serious risk of injury because:
    - danger of contact with moving parts
    - danger of failure of the guards
    - danger of failure of the emergency switch

THE PRODUCT DOES NOT COMPLY WITH THE MACHINERY DIRECTIVE

Trolley jack

- Instructions for use in the correct language are missing
- Instructions in English are deficient
- Markings on the product are inadequate
- Does not comply with European standard EN 1494

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Mini motorbikes

The EC Commission urged market surveillance action under the Machinery Directive following 10 RAPEX notifications:

- Did not meet safety standards
- Were extremely dangerous to operate
- Several fatal accidents had been reported

Typical faults included:

- Inadequate chain guard - risk of entrapment to rider
- Exhaust close to riders - risk of burning leg
- Movement of handlebars restricted - risk of loss of control
- Fuel vents into riders face - risk of fuel inhalation
- Fuel cap does not close securely - risk of fire

THE PRODUCT DOES NOT COMPLY WITH THE MACHINERY DIRECTIVE

Hand winch

- No appropriate brake for lowering of lifted 600 kg loads
- Wire ropes - too weak for the stated load
- Instructions for use do not comply with the requirements and could lead to dangerous situations

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Quad bike

The product poses a risk of injuries because of:

- sharp edges and incorrectly welded elements,
- the electrical elements are not protected against wet conditions, which can cause a short circuit,
- insufficient protection of fuel pipe,
- asymmetrical frame of the vehicle, which makes it easily collapsible.

THE PRODUCT DOES NOT COMPLY WITH THE MACHINERY DIRECTIVE

Chain saw

The product poses a risk of injuries because the chains continue to run when idle.

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USEFUL SOURCES OF FURTHER INFORMATION

Machinery Directive (98/37.EC) – full text
http://ec.europa.eu/enterprise/mechan_equipment/machinery/welcdir.htm
Machinery Directive (2006/42/EC)
http://ec.europa.eu/enterprise/mechan_equipment/machinery/revdir.htm
Letter to Member States on mini-motorbikes (Latvian)
http://ec.europa.eu/enterprise/mechan_equipment/machinery/guide/mmb_letters/latvia.pdf
Frequently asked questions about the 2006 Directive (English)
http://ec.europa.eu/enterprise/mechan_equipment/machinery/faq2006-42-ec.pdf
Information about Notified Bodies
http://ec.europa.eu/enterprise/mechan_equipment/machinery/nb.htm
Harmonised Standards - up to date list available on the Europa website at:
http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:166:0003:0017:EN:PDF
Product safety notifications - RAPEX website - Latvian:
http://ec.europa.eu/consumers/index_lv.htm
Information about New Approach Directives can be found at the EU Commission's website:
http://www.newapproach.org/Directives/DirectiveList.asp
CE Marking Directive:
http://www.ce-marking.org/directive-9368eec-ce-marking.html